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PSYCHOSES OF THE PUERPERIUM.

By REG. S. ELLERY, M.B., B.S. (Melb.),
Medical Officer, Mental Hospital, Sunbury, Victoria, and Clinical Assistant to the Psychiatrist, Melbourne Hospital.

How far the goddess Eileithyia, the divine midwife of the Greeks, was held responsible for the insanities connected with pregnancy has not been ascertained, but the physiological exigencies of reproduction, as with the other epochal stresses of adolescence and the climacteric, have long been regarded as ætiological factors playing important parts in the production of certain psychoses, so much so that until quite lately writers conceived certain separate types of insanity which they designated "puerperal." According to the stage at which mental symptoms became manifest, the condition was diagnosed as (i.) insanity of pregnancy, (ii.) puerperal insanity and (iii.) lactational insanity.

It is easy to understand how amid a welter of puerile superstitions and theories relating to demoniacal possessions the older physicians mistook the cause for the effect and labelled the psychosis, the onset of which coincided with the puerperium, as puerperal insanity. But, except for teaching purposes (and even here it is liable to mislead) the old terminology has been discarded by the more advanced psychiatrists who now recognize that while any psychosis may develope during the puerperium, pregnancy being perhaps a contributing cause or merely an incidental complication, there is no psychosis definitely and solely related to the phenomenon of reproduction.

Factors in Mental Illness.

Broadly speaking, the psychotic symptoms which are manifestations of mental illness result from the combined stresses of mental and physical abnormality upon the brain as an integral organism. The manner in which these stresses act, and the intensity of the reaction they set up, depend upon inherited cerebral structure. The ratio of the exogenous stresses is inversely proportional to the endogenous factors of inherited diatheses. That is why in some cases no amount of hard drinking, venereal excess or pyrexia will cause any appreciable abnormal mental symptoms, whereas, when the inherited predisposition is strong, the exogenous factor, whether in the nature of a toxin, physical exhaustion, pregnancy or repression, be it ever so small, may lead to mental breakdown, a collapse of that biochemical equilibrium between brain and body with its train of attendant and pathetic and puzzling symptoms.

The Psychotic Diathesis.

The late Sir Frederick Mott, in his study of "The Neuropathic Inheritance"[1] maintained that the statistics relating to parental insanity were quite inadequate in estimating the degree of neuropathic inheritance in patients who became definitely psychotic; for, he said, it is necessary to know something of the temperament and conduct of all the members of a fraternity and as many of the stock as possible to make scientific deductions of value and this requires time and the patient investigation by a skilled person. Nevertheless, it is well known that insanity in one or other of the parents is very often transmitted and that when there is insanity on both sides of the family, the psychotic diathesis is so strong that the chances of transmission are four times as great.

In the eighty patients at present under review insanity was traced in the family history of 47%. This figure is certainly too low, for the reason that it is often impossible to interview the members of a patient's family and further that, owing to the false sense of shame which the many still attach to familial insanity, keeping their psychotic skeletons in the cupboard of secrecy, the truth is often withheld. There is no doubt, however, that, were one able fully to investigate the structural and functional stigmata in parents, antecedents and collaterals, taking into account such environmental factors as the nature of the home and surroundings, the habits and eccentricities of the parents, the relations of parents to children, and fully to take cognizance of such neurotic tendencies in the early lives of the parents as sexual precocity, abnormal shyness, day dreaming, suspicion or emotional instability—in a word, to compute the influence of heredity in the manner in which Mott suggests—a neuropathic inheritance would be discernible in a very large percentage of cases.

The inborn morbid tendency, hidden so often by a variety of external compensations, is nearly always difficult to locate and may sometimes be seen only in the impoverished nerve potential of a psychotic. Without some exciting cause, some exogenous stress, placed by chance or circumstance upon a too frail cerebral mechanism the congenital morbid tendency, making suitable minor adjustments, may pass unnoticed through a lifetime. In the series of patients about to be considered, 47% we have found to be possessed of a definite psychotic diathesis and the remaining 53% we shall perhaps be justified in regarding as persons possessing from birth a morbid instability for which in the normal way pregnancy has proved too great a stress.

The Stress of Pregnancy.

Among the stresses relative to the puerperium which are said to cause insanity in those in whom there is a history of a previous attack or an inherited predisposition, are: (i.) The toxæmias of pregnancy, (ii.) puerperal sepsis, (iii.) *post partum* hæmorrhage, (iv.) prolonged lactation. These are all of a toxic-exhaustive nature and, like the acute infectious fevers, are ætiological factors in the causation of acute confusional insanity. But in the most typical psychoses of the puerperium pregnancy, natural, easy and uncomplicated, is often the chief stress, either by itself or with one or other of the concomitant mental stresses such as illegitimacy, brutality of a husband or desertion.

Analysis of Cases.

The following is a summary of eighty cases in which pregnancy was the chief ætiological factor:

Acute confusional insanity	39
Manic-depressive psychosis	27
Dementia præcox	21
Paraphrenia	2

Acute Confusional Insanity.

It will be seen that the largest number of cases in this analysis have been grouped under the heading of acute confusional insanity. It comprises 49% of the total number. The condition is known by a variety of names. Acute delirious mania, exhaustion psychosis, collapse delirium and acute hallucinatory insanity have all been used to signify a condition in which acute mental confusion is established as the result of profound exhaustion or toxæmia. It is not proposed to enter into a detailed description of all the manifold symptoms appertaining to this important psychosis; they are properly dealt with in textbooks, but among the cases grouped in Table I. the cardinal symptoms were: (i.) An

TABLE I.

SHOWING PATIENTS GROUPED UNDER HEADING OF ACUTE CONFUSIONAL INSANITY.

Number.	Age.	Insane Heredity.	Remarks.
1	23	..	Three illegitimate children; insane after third child. Died.
2	35	..	First pregnancy.
3	23	Yes	Deserted by husband.
4	28	Yes	First pregnancy.
5	26	..	First pregnancy. Recovered.
6	21	..	Illegitimate child. Became insane when four months pregnant.
7	41	Yes	Second pregnancy.
8	34	..	Third pregnancy. Recovered.
9	31	Yes	Murdered her child.
10	28	..	First pregnancy.
11	40	..	Two weeks after first confinement.
12	34	..	After prolonged lactation.
13	29	Yes	Two pregnancies; attack after each.
14	28	..	Recovered.
15	23	..	First pregnancy.
16	27	Yes	Six children in rapid succession.
17	31	Yes	Five children; attacks after birth of last two.
18	19	..	Recovered.
19	23	..	Second pregnancy. Recovered.
20	17	..	Recovered.
21	28	Yes	After miscarriage. Recovered.
22	23	..	After miscarriage. Recovered.
23	24	..	Recovered.
24	38	..	After still-born child. Recovered.
25	39	..	Deserted by husband. Recovered.
26	35	..	First pregnancy. Recovered.
27	29	..	Fifth pregnancy. Recovered.
28	32	Yes	First pregnancy. Died within four days.
29	31	..	First pregnancy. Died.
30	41	..	Thirteen children. Insanity followed the last birth. Died.
31	22	..	Second pregnancy. Recovered.
32	25	..	First pregnancy. Recovered.
33	36	..	Sixth pregnancy. Recovered.
34	21	..	Illegitimate child. Recovered.
35	18	..	Illegitimate child. Recovered.
36	23	Yes	Illegitimate child. Recovered.
37	40	..	First pregnancy. Died.
38	44	..	Prolonged lactation; first pregnancy. Died.
39	41	..	Third pregnancy. Died within five days.

essential clouding of consciousness, (ii.) psychomotor activity, (iii.) acute (sensory) hallucinations, (iv.) verbal incoherence.

The total number of patients in the group was 39 or 49% of the total number in the series.

The total number of those who recovered was 19 or 49% of the group.

The total number of those who died was 7 or 18% of the group.

The total number of those who became demented was 13 or 33% of the group.

The number with psychotic inheritance was 10 or 25% of the group.

The recoveries among those with psychotic inheritance numbered 2 or 10% of the group.

The non-recoveries (excluding deaths) among those with psychotic inheritance numbered 7 or 54% of the group.

Manic-Depressive Insanity.

The group of cases next in size occurring in connexion with the puerperium is that now generally known as manic-depressive psychosis. The psychosis may be regarded as an extroversion reaction following a disorder of the emotions. The following, according to Bedford Pierce,[2] are the fundamental characteristics: (i.) Emotional disturbance, so marked that these mental disorders are often spoken of as the "affective psychoses"; (ii.) a striking tendency towards recovery from the attack; (iii.) a tendency towards relapse, the attacks recurring at irregular intervals or exhibiting a regular periodicity; (iv.) absence of any decided mental deterioration, even after repeated attacks; (v.) usually an innate constitutional predisposition.

As there are still some writers in Australia[3] who presumably from an innate abhorrence to new ideas would rather emulate the ostrich by burying their heads in statistical sand than accept the term "manic-depressive psychosis," I quote the definition advanced by the American Psychiatric Association, against which the condition of the patients in the next group of cases was diagnosed.

This group comprises the essentially benign affective psychoses, mental disorders which fundamentally are marked by emotional oscillations and a tendency to recurrence. Various psychotic trends, delusions, illusions and hallucinations, clouded states, stupor *et cetera* may be added. To be distinguished are:

The manic reaction with its feeling of well-being (or irascibility), flight of ideas and over-activity.

The depressive reaction with its feeling of mental and physical insufficiency, a despondent, sad or hopeless mood and in severe depressions, retardation and inhibition; in some cases the mood is one of uneasiness and anxiety, accompanied by restlessness.

The mixed reaction, a combination of manic and depressive symptoms.

The stupor reaction with its marked reduction in activity, depression, ideas of death, and often dream-like hallucinations; sometimes mutism, drooling and muscular symptoms suggestive of the catatonic manifestations of *dementia præcox*, from which, however, these manic-depressive stupors are to be differentiated.

An attack is called circular when, as is often the case, one phase is followed immediately by another phase, *e.g.*, a manic reaction passes over into a depressive reaction or *vice versa*.

TABLE II.
SHOWING PATIENTS GROUPED UNDER HEADING OF MANIC-DEPRESSIVE INSANITY.

Number.	Age.	Insane Heredity.	Remarks.
1	31	..	First pregnancy.
2	39	..	Four children; attack at fourth confinement.
3	41	Yes	First child born at forty-one years.
4	35	Yes	Has five children; the last three attacks followed her latter births.
5	38	Yes	Had four children and one miscarriage in four years, then insane. Is now well.
6	27	Yes	Five children; attacks after each.
7	28	Yes	First pregnancy.
8	28	..	First pregnancy; is very sexual.
9	22	Yes	First pregnancy.
10	28	..	Three children; attacks after each.
11	26	Yes	Second pregnancy.
12	37	..	First pregnancy.
13	35	Yes	No children; attack after miscarriage. Recovered.
14	38	..	First pregnancy. Recovered.
15	30	Yes	Has been four times confined to mental hospitals after the birth of each of three children and at the climacteric. Recovered.
16	31	Yes	Has been four times confined to mental hospitals after the birth of each of three children and at the climacteric. Recovered.
17	30	Yes	Insane after birth of third child; second attack followed abortion and hysterectomy.
18	21	Yes	Four attacks following pregnancies. Recovered.
19	36	Yes	Two attacks following pregnancies. Recovered.
20	30	..	Three attacks following pregnancies. Recovered.
21	35	Yes	Seven children in nine years, then insanity supervened. Recovered.
22	35	Yes	Two attacks following pregnancies. Recovered.

The total number of cases of manic-depressive insanity was 22 or 27% of all cases in the series.

The total number of these with an insane heredity was 15 or 68%.

The total number of patients who recovered was 11 or 50%.

Dementia Præcox.

The heterogeneous manifestations of the schizophrenic personality in disease, representing a psychic regression to a lower level, marked by fantasy, autistic thinking, negativism *et cetera* with dementing tendencies, has made a delimiting diagnosis somewhat difficult. The difficulty is further increased by a cumbrous terminology, sometimes irrelevantly applied to the schizophrenic-paranoid psychoses, including a paraphrenia group (see later) with several hair-splitting subdivisions purporting accurately to classify half a dozen different varieties.

A diagnosis of *dementia præcox*, however, was applied to those cases in Table III. in which a morbid introversion associated with personality-dissociation led to abnormality of thought, feeling and action, with delusions, defective judgement, hallucinations and emotional obtundity.

From this table it will be seen that:

The total number of cases of primary dementia was 17 or 21% of the whole series.

The total number with insane heredity in the group was 11 or 65%.

TABLE III.
SHOWING PATIENTS GROUPED UNDER HEADING OF DEMENTIA PRÆCOX.

Number.	Age.	Insane Heredity.	Remarks.
1	28	..	Insanity three months after second pregnancy.
2	31	Yes	Psychotic symptoms fourteen days prior to second confinement.
3	25	..	Insanity two months after first pregnancy.
4	27	Yes	Sister to Number 11. Insane a few months after birth of illegitimate child.
5	30	..	Insanity at first confinement.
6	29	Yes.	Three months after first confinement.
7	29	Yes.	Five weeks after fourth confinement.
8	24	..	Psychotic symptoms after birth of first child; certified after birth of second.
9	30	Yes.	Developed a few months after confinement.
10	27	?	Shortly after second child was born.
11	31	Yes	Three months after birth of first child.
12	27	Yes	Three months after birth of first child.
13	21	Yes.	After first pregnancy. Died.
14	21	Yes.	One week after birth of illegitimate child. Recovered.
15	35	..	After first pregnancy.
16	26	Yes.	After first pregnancy.
17	25	Yes.	After second pregnancy. Illicit intercourse and forced marriage followed by birth of child provoked first symptoms.

The recoveries numbered one or 6%.
The chronic conditions numbered 15 or 88%.

Owing to the uncertain pathology of *dementia præcox* and the mystery still shrouding the psychogenic process it is difficult to assess the part played by pregnancy in this psychosis. Accepting the concept of *dementia præcox* as a maladjustment to environment, an "intra-psychic ataxia" engendered by a conflict between the biological destiny of the individual and the economic ideal, it will be seen that pregnancy is almost bound to heap an added stress upon one already schizoid in character and in whose vital tissues there exists both developmental inadequacy and regressive cellular mutations.

The usual age of onset of *dementia præcox* given in the textbooks is between fifteen and twenty-five, that is, during the period between adolescence and maturity. That pregnancy has acted definitely as an ætiological stress in these cases is seen in the fact that 71% of patients were over twenty-five years of age when the attack commenced and 65% showed psychotic symptoms following their first pregnancy.

Paraphrenia.

Paraphrenia, as defined by Kraepelin, is "that fraction of the totality of paranoid states which do not in a few years manifest the characteristic dementia of *dementia præcox* nor the full characteristics of paranoia." It has therefore become a kind of Serbonian bog in psychological medicine into which the majority of chronic unsystematized delusional cases are cast. Paranoid tendencies appear to be inherent in some personalities as fixations at an autoerotic level, causing a psychic maladjustment in which, when the patient becomes psychotic, delusional interpretation coupled with ideas of self-reference are coloured by hallucinatory falsifications. Without going fully into the mechanism of the "narcissistic *libido*" which is still caviare to the medical multitude, it is easy to see that the delusional content in paraphrenic patients reflects strikingly the nature of their repressions. It cannot be said, therefore, that pregnancy is much more than a concomitant stress in the ætiology of paraphrenia, an upheaval in the erotic sphere open to further misinterpretation and delusion.

Of a large number of paraphrenics examined in only the two cases quoted below did pregnancy appear to have had any ætiological importance.

TABLE IV.
SHOWING PATIENTS GROUPED UNDER HEADING OF PARAPHRENIA.

Number.	Age.	Insane Heredity.	Remarks.
1	37	Yes	Insanity developed after third pregnancy.
2	30	Yes	Insanity developed a few weeks before the birth of first child.

The total number of cases of paraphrenia was two or 3% of the whole series.

Pregnancy and the Psychopathies.

The most disastrous thing that can happen to any woman at a time when she is satisfying a wish-fulfilment of the greatest intensity, is to become insane during the puerperium. The problem of all forms of mental aberration during the puerperium of which the psychoses discussed in this paper form an important part, is one touching quite pertinently the domain of the practising physician and the obstetric surgeon and it raises difficult questions connected alike with individual welfare and racial fitness, the solution of which often ultimately rests with the general practitioner.

It has long been recognized that numerous psychopathies such as abnormal irritability, subacute depression, affective instability, morbid impulses and eccentricities develope in certain neuropathic women in the earlier months of what usually transpires as a normal pregnancy. Many of these minor symptoms, when recognized and understood, may quite well be disregarded, in that they seldom darken the prognosis for either mother or child. But though a discussion of pregnancy psychopathies cannot be embarked upon here, it behoves the physician or *accoucheur* to realize that the symptoms of minor mental aberration may indeed be those of an incipient psychosis in which case the prognosis will need revision based upon psychic revaluation and the treatment will require to be modified conditionally upon the diagnosis.

Obstetricians, constantly called upon to treat puerperal infection, mastitis and the pregnancy toxæmias, may be rather inclined to accept the dogma of De Lee[4] that "psychoses during pregnancy are usually toxæmic." But there is undoubtedly no

sufficient evidence for such an assumption. To what extent the changes in nitrogen metabolism, evident in the toxæmias of pregnancy, affect neuronic tissue in the direction of psychotic tendencies has not been definitely ascertained. It is well known that certain psychoses may and do follow certain pathological and toxæmic states of pregnancy; but a very large number (and this includes the majority of the eighty cases just reviewed) occur in apparently normal pregnancies, especially when this physiological stress acts upon a neuropathic mechanism.

Aspects of Treatment.

The question of treatment which often involves the induction of abortion or premature labour and upon eugenic grounds may raise the question of sterilization, is naturally a vexed one. Here we enter the perilous precincts of medical ethics, a subject in which the factors of religion, traditional usage hallowed by the centuries and sentiment coloured by creed, have joined forces with jurisprudence to bring about policies of humanitarian temper. It is a domain in which one does well to tread warily and in which respect for the beliefs of others must sometimes be allowed to take precedence over one's better judgement.

Treatment of psychotic patients must be approached from two aspects, according to the stage at which the psychosis becomes manifest.

If a woman becomes psychotic prior to delivery, treatment should be advanced along the following lines: (i.) Obstetrical treatment as indicated by the presence of any physical signs; (ii.) treatment of the psychosis, as indicated by mental symptoms. As recovery seldom takes place until after delivery this is usually a matter of keeping the patient under strict observation and treating as appropriately as possible such symptoms as restlessness, insomnia, refusal of food and suicidal tendencies.

If, on the other hand, as most frequently happens, a woman shows psychotic symptoms after her delivery, obviously the attention is directed chiefly to mental treatment. The first question likely to arise is that of the advisability of sending the patient to a mental hospital. In nearly all cases in which a definite psychosis has developed, this course is both desirable and necessary.

The acute confusional conditions of toxic-exhaustive origin offer the best scope for treatment if carried out early. This should consist of absolute rest, controlled if necessary by hyoscine and in the very acute cases, of washing out the stomach and of forced feeding with the nasal tube. Convalescence must never be hurried, for there is always a danger of a relapse.

The manic-depressive patients have a spontaneous tendency to recover and when exhibiting acute maniacal symptoms or extreme depression must obviously be sent to a mental hospital. There the treatment followed is that laid down in the text-books of psychiatry.

The schizophrenic-paranoid patients of which the majority are primary dements, offer the worst prognosis and after intriguing the general practitioner for varying lengths of time and adding steadily to parental anxiety, they gravitate with one accord to the mental hospital to live out their allotted span crystallized in the monotony of dementia. Mott[5] believed that *dementia præcox* is due to an inherited genetic inadequacy, leading to a deficiency of productive energy of the reproductive organs associated with a progressive deterioration of psycho-physical energy and though extensive experiments have been carried out on the blood-cholesterol, the lipoid metabolism and the basal metabolic rate, no satisfactory form of treatment has yet been found. Treatment by the diathermic current, injection of autoserum, malarial inoculation, somnifene hypnosis, aseptic meningitis and thyreoid therapy have gone the way of older methods into the limbo of faded enthusiasm.

Indications for Abortion.

Indications for the artificial termination of pregnancy on the grounds of insanity might be advanced in two directions, namely: In the interests of the mother and on eugenic grounds for the benefit of the race.

In the Interests of the Mother.—Insanity of the puerperium is most frequently seen after delivery and although there are well recognized indications of a physical nature for the termination of pregnancy, experience has not shown decisive mental indications in which interference has proven beneficial. *Dementia præcox* developing during pregnancy would not tend to clear up after abortion and patients of a manic-depressive type are sometimes made worse by operative termination of pregnancy. One patient in the series quoted above, having developed an attack of mania after the birth of her third child, had her uterus curetted while quite normal in the early months of her fourth pregnancy and she promptly developed another attack of mania. Another patient, having become maniacal after a confinement, had her tubes tied when she was discharged from the mental hospital and directly afterwards became maniacal again.

In the Interests of Eugenics.—If it could be proved that insanity was transmitted through a family as a Mendelian recessive characteristic, it might be legitimate to recommend abortion when contraceptive measures have failed in definitely psychotic mothers. But although we do know that some of the psychoses are transmitted, we are ignorant of the laws governing such transmission and most authorities agree that without more definite information we have no right to sacrifice the life of a child on the mere chance of its becoming insane.

It is clear that upon such a question as this one cannot be dogmatic. Each case must be treated on its merits and there will no doubt occur instances in which termination of pregnancy will be considered the wisest expedient. In fact, a psychosis occurring in connexion with the puerperium is of such importance to the patient in the matter of diagnosis, prognosis and treatment that the

obstetrician will do well to follow the wise counsel of Eden and call into consultation a psychiatrist.

Prophylaxis.

Adapting an old maxim, somebody recently said that "prevention is better than abortion"—thus summarizing in a sentence the whole psychiatric position with regard to the psychoses of the puerperium. The earliest symptoms of mental trouble, especially arising in those who are known to possess a psychotic diathesis, should be sought for and recognized by the practising obstetrician. Any of the following symptoms should excite his suspicion: (i.) Insomnia; (ii.) prolonged anxiety; (iii.) exhaustion, mental or physical; (iv.) change of character, either morbidly elated or morbidly depressed. If these are recognized treatment can then be instituted as early as possible to prevent the psychotic development.

People with a bad family history should be advised not to marry and those women of neurotic character who have suffered an attack of confusional insanity following their first or second pregnancy, should be urged to have no more children. All the prophylactic weapons are in the hands of the general practitioner who by his often unique position in the families he attends, is able to give enlightenment to the ignorant and sage counsel to those whose erring impulses may be leading them along the pathways of misery.

Conclusions.

1. There is no particular puerperal psychosis.

2. Any psychosis may develope during the puerperium, in which case the mental symptoms may be coloured by the physical condition.

3. The three commonest psychoses which occur in connexion with the puerperium and in which pregnancy is a dominant ætiological factor are confusional insanity (of toxic-exhaustive origin), the manic-depressive psychosis and *dementia præcox*. These occurred in ratios of 49%, 27% and 21% respectively.

4. The incidence of definite insanity in the patient's family was 47% and this figure for reasons stated is probably too low.

5. Confusional insanity offers the best prognosis. Of these patients 49% recovered, but this figure is lower than that given by recent authorities, possibly because owing to the nature of the illness patients are not always sent to a mental hospital until the condition has become chronic.

6. The signs of incipient psychosis should not be mistaken for the recognized psychopathies of what is generally a normal birth.

7. The earlier treatment is commenced, the better the prognosis.

8. The indications for abortion in psychotic cases are rare.

9. The obstetrician is advised to consult a psychiatrist before deciding upon any line of treatment.

10. In the absence of specific treatment, when there is a known insane heredity, some form of prophylaxis, either marital abstinence or the employment of a contraceptive method, should be recommended.

Acknowledgments.

A number of patients of the toxic-exhaustive type, grouped in this article under confusional insanity, owed their recovery to the valuable work of my colleague Dr. Lalor[6] who employed a vaccine therapy with considerable benefit in those patients whose acute symptoms were seemingly becoming those of chronic delusional states. It is through his courtesy that I am permitted to use and group these patients with my own for the purposes of this investigation.

I further desire to thank Dr. John K. Adey, Medical Superintendent of the Mental Hospital, Sunbury, for his permission to investigate and publish these notes and for his interest and help in establishing correct diagnoses.

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(1) Frederick Mott: "The Neuropathic Inheritance." *The Journal of Mental Science*, April, 1913.
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HOSPITAL PRACTICE.[1]

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MAY I preface my remarks this afternoon by expressing my appreciation of the honour it is to be asked to come and address this Division? The South-western is one of the divisions of the Victorian Branch of the British Medical Association which tries to take itself seriously and whose members really seem to believe that meeting for discussion is worth while. Country divisions are at a great disadvantage as compared with city divisions, in that their members have to travel large distances and that there is consequently great difficulty in the way of getting good meetings together. That this Division makes the effort regularly and with such excellent results, is sufficient evidence of its keenness. Anyone presuming to read a paper to you must feel a full sense of the duty laid upon him of giving you something worth your hearing. All I can say in excuse for my accepting your invitation, is that I feel very deeply on this matter of medical organization and especially hospital reform

[1] Read at a meeting of the South-western Division of the Victorian Branch of the British Medical Association on November 13, 1926.

and feel also very strongly the need for the medical profession itself to take a more active part in bringing about results in both these directions. I submitted my previous paper on this subject with a good deal of diffidence, not knowing just how ripe was the time nor how sympathetic the profession for the airing of the views I hold. Your invitation has given me considerable confidence as to the latter point and the recent publication of Dr. McEachern's report with the comments on it in the press reaassures me as to the former.

I stated at that time my conviction that the charitable principle in medical work has swollen to an altogether unhealthy extent and is responsible very largely for the financial difficulties of the hospitals, for the inefficiency and wastefulness of the medical service to the public and for the high fees which have to be paid for medical attention by those who are not eligible for the free services under it. I put these faults of our system down to the altered conditions of medical work which by its complexity has become so much more expensive that it has brought about a complete change in the type of the public hospital patient and has done away—and most rightly—with the limitation of these institutions to the service of the destitute poor. The statement that the very poor are in the minority among the users of the public hospitals is almost obviously true; but it meets with more opposition than any other in this matter. The lay public still cling to the traditional fiction that the public hospitals are used solely by the destitute. Hospital committees resent the statement as a suggestion that they are lax in their supervision of the patients admitted. Appeals for voluntary aid to the hospitals are based on the same ground. And it is a widening recognition among members of the public that this aspect will not bear close scrutiny which prevents the appeals from meeting with more success.

In a meeting of medical men from country towns the point, I think, does not need arguing. It is sufficient to affirm it. I may refer again to the fact that seven hundred patients are admitted to the Colac Hospital every year and that this is the equivalent of one member of every seventh family in the district. I may draw your attention again to the fact that for every four patients who enter the private hospitals seven enter the public institution. I may bring to your memory a sentence in Dr. McEachern's report, in which he says definitely that the "wards are filled with patients who are able and willing to pay for their treatment." I do not quite agree with him as to the willingness in many cases, but his phrase that the "wards are filled" with them is striking. This sentence has been quoted, apparently with agreement, by the Chief Secretary, Dr. Argyle. I would also like to quote an extract from the Presidential Address to the Annual Meeting of the British Medical Association at Nottingham, as reported in *The British Medical Journal* of July 24 of this year in order to indicate to you that the trouble is not a local one, but is causing concern in England as it is here. Mr. Hogarth said in the course of his address:

> We must not shut our eyes to the rapidly changing character of the personnel of hospital patients. . . . The hospital is no longer the lazar house of the destitute, to which homeless and plague-stricken outcasts crawled to die, . . . Such it was in mediæval times; then came the period which has lasted more or less down to our own day, when the hospital was still exclusively used by such as were too poor to pay for the administrations of a doctor. . . . But we have advanced far beyond that simple conception in these days, and we shall advance much further still, if only because the hospitals have become the centre of the best medical and surgical skill in the areas they serve. . . . If it were pressed it would indeed be intolerable, especially in view of the increasing expensiveness of any serious operation or illness, the cost of nursing homes, and the palpable unfairness of leaving out in the cold the great body of the middle classes.

And again:

> There is little need to lament the disappearance of the old principle that the hospitals were absolutely free, a principle which was, in fact, often grossly abused.

The fact of the great overgrowth of charitable work now demanded from us being admitted, what means are there by which it can be reduced? Rejecting such a proposal as State medical service, the alternatives apparent to me are two. The first is the limitation of the public hospitals to their original intention of catering only for the very poor. The second is the throwing open of the public hospitals to all classes of the community and at the same time relieving ourselves of a large part of the charitable burden by placing our charges at a level more nearly corresponding to what the great mass of the people can pay.

The first alternative has, I think, only to be discussed for a moment to be dismissed. It is not desirable that these "centres of the best medical and surgical skill in the districts which they serve" should be limited to so small a class as are the destitute poor in this country. As Mr. Hogarth puts it, "it would be intolerable." Furthermore, even were it desirable, it would not be possible in modern conditions to carry it out. The restrictions would have to be applied by the local authority, a committee composed of business men from the district in which the would-be patients reside. There is nothing in the record of their administration hitherto, to make one feel that they would be able to apply a stringent ruling of this kind in other than a few outstanding instances. Their difficulties are obvious. First the difficulty of assessing accurately the resources of the patients. I know of three patients recently admitted where the head of the family possessed land worth £4,000 to £5,000, not perhaps all fully paid off. In each case the family possessed their own motor car. Clearly they were not fit objects for our charity, yet each of them claimed it definitely and could have made out in public a good case for their not being able to pay private fees.

Secondly, there is the difficulty of fixing the responsibility for payment. I have in mind the case of the daughter of a well-to-do farmer, the latter disclaiming responsibility on the ground that his daughter was of age and had no money of her own. Another man whose child had been an in-patient for some time, drove up to see her one day in a new motor car, but claimed when questioned that the car was his wife's, bought by her out of a legacy

and nothing to do with him and that he was unable to pay for his daughter's treatment. Thirdly, there is the difficulty of prosecuting people who make false statements, because of the desire of the committee to keep the hospital as an institution in public favour. Fourthly, the difficulty underlying all these others of overcoming the natural desire of the committee men not to make themselves unpopular with nor to offend their clients and customers. And finally, there is the equally natural desire on their part to give the patient the benefit of the doubt in all cases.

In view of the failures of the past and present I fail to see any prospect of strict enforcement of the rules for the future, so long as the hospitals are divided on financial sectional lines as they are at present. When Dr. McEachern was in Colac, we asked him what steps they took in America in regard to patients using the public hospitals, when they had no right to do so. His answer was that anyone who tried to evade his just obligations in this way, "led a very tortuous existence" until he had paid up. It is probably the community hospital system in America which renders this possible there. I am sure it would not work in the country districts of this land at any rate. I am sure and I think you will agree with me that it is neither desirable nor possible for the profession to adopt the first alternative as a policy towards the solving of its difficulties.

Considering then the second, it consists of two parts. First the establishment of the open hospital and secondly the lowering of fees. I spoke at some length of the second part in my previous paper. It will involve more than the mere granting of "intermediate fees" in selected cases. It will definitely mean the setting of our charges at a lower level in all but selected cases, for most of us in any event. And I think we should not be the losers by it, if by so doing we could relieve ourselves of much of the present gratuitous work, as I believe we could. And when one thinks of it, our charges are rather heavy on the people who have to pay them. A mother who lives ten miles out in the country, whose baby suffers from convulsions thinks of nothing but getting the doctor at the time. But when the trouble is past and some time later the bill comes to hand, five guineas seems a large sum to pay away for the knowledge that the convulsions were not dangerous and that the grandmother's method of treatment by putting the child in a hot bath with a cold cloth to its head was quite correct. I believe that very few men in the country do actually charge their patients the full scale of fees as approved by the Victorian Branch of the British Medical Association. Most of us consider them too heavy for the public, but even the lesser fees we at present ask are, I think, rather apt to make people regard us (always after the crisis is over) rather as expensive luxuries, to be done without if possible, than as friends in need. I do not think, having stated my convictions on this point, I need enlarge on them. I shall turn now to the more arguable point, the "open hospital."

I have preferred to use the term "open hospital" in describing the non-sectional institution, rather than the term "community hospital" by which it is more generally known. I have always found on trying to expound my ideas, that I very soon encounter some such remark as "Oh! The community hospital idea! That has been a failure in America" or some other argument against it, based on a prejudice against all things emanating from the States. It should be unnecessary to point out in the first place that it is very far from being proved that it is a failure in America. In fact I do not think that there is any remote possibility whatever of America altering her hospital system in any such basic principle as this. And in the second, that a good sound principle, provided it is capable of adoption to our own conditions, is good and sound no matter what its origin. None the less I have tried to avoid the term community hospital on psychological grounds, believing that we here in Australia may yet evolve an institution on the open principle which differs widely from the American model from which it starts; and also believing that at the present time the term open hospital is more descriptive of the opposite from the "charity" or "intermediate" sectional institution than is the American term.

The intermediate hospital or the intermediate ward remains just as distinctly a sectional institution as is the present charitable hospital. The establishment of new separate intermediate hospitals will not solve the problem in any way. It will not diminish the cost of hospital upkeep. It will not deal with the present overgrowth of charitable treatment and maintenance. And it will not help towards the regularization and improvement of the private hospitals. An institution such as a hospital, if it is to be organized on sectional lines, must have its limits very well and clearly defined and must at the same time be to a certain extent elastic in its interpretation of these limits. One can imagine, for instance, hospitals based on the clearly defined divisions of religious denominations, to which people would elect to go according to their own religious views. But one would not find it conducive to general good feeling were Catholic hospitals to close their doors to Protestants, or Presbyterian hospitals rigidly to exclude Anglicans. The division of hospitals into charitable, intermediate and private offends both of these requirements. There can be no such clear dividing line between them and also by its very nature such a classification as this forbids elasticity. The attempt to enforce a rigid adherence to their limitations is, as we have agreed, impossible and undesirable and is productive of great ill-feeling. A single hospital, having wards allotted to all the different religions would find no difficulty in segregating the patients into their denominations without any ill-feeling at all. Similarly in the case which has recently been prominent in the press, of a patient removed from the Alfred Hospital to an intermediate hospital, there would have been no outcry had he been moved from a non-paying ward to a paying ward in the same institu-

tion. Because of the sectional limitations, involving his removal from one institution to another, all the hunters of the medical profession gave tongue.

Multiplication of hospitals on this basis cannot lead to economy of administration, involving, as it does, multiplication of staffs, expensive equipment and overhead expenses generally.

As to the possibilities of lessening the amount of charitable work asked from the medical profession, I am not hopeful, as long as the principle of charity remains as prominent as it does now. The difficulties confronting the local authorities will be the same. The patient to whom the new system will appeal, is not the patient who at present finds it easy to stretch a point to demand free treatment, while the same free treatment is still his for the asking. Intermediate fees are offered frequently by us in our own private hospitals and refused without hesitation in favour of the free hospital. The intermediate patients will almost certainly come from the present private hospital class. This would seem to be recognized by the framers of the scheme, in that their arrangements include, not provision for alteration of the present charitable hospitals to make some of their space into intermediate beds, but always the provision of fresh accommodation to take in large fresh numbers of patients. It was also specifically stated in an article in *The Argus* of October 15. If that is so, what is to be the position of the private hospitals where such exist in the country at present? Certainly many of them will have to close down and their patients will either have to take advantage of the intermediate fees which were not intended for them, or leave their towns and seek the cities.

The final objection to any such partial scheme is as truly applicable in the cities as in the country. That is, that where the private hospitals do survive, they will survive in their present form and the opportunity of substituting for them paying accommodation in first-class general hospitals will be lost. There are far too many small private hospitals everywhere. The best work cannot be done in them, owing to lack of equipment and often too it is definitely not done because it is not performed under the stimulating conditions of direct supervision and inspection by professional competitors. Of the majority of private hospitals very little can be said that is favourable. The better ones have a pleasant, secluded atmosphere about them which many people would be very loath to give up. But even among the best of these hospitals in Melbourne the number which have such an essential as an X ray installation, can be counted on the fingers of one hand. And the homelike atmosphere which is the main recommendation of the best, is not a feature of the very many.

The establishment of intermediate hospitals is going to leave all these problems unsolved in spite of the expenditure of a great deal of money, unless several conditions are attached to the plan. One is that, in the country at any rate, it is understood that whatever new accommodation is proposed will be combined with the existing public hospitals and will not involve new overhead expenses. Another is that it be recognized as only a first step in a general scheme to provide in the same hospitals as soon as possible accommodation for all classes of patients, full fee as well as intermediate. And a third is that charitable patients should receive free maintenance as well as free treatment by the doctors. This last will be a very necessary inducement to the hospital committees to strive to overcome the difficulties of their present position and to put their hospitals on a self-supporting basis. I do not think that hardship would result to patients to any extent, particularly if a system of insurance against hospital and medical fees were instituted widely amongst the people.

I am told that this business of throwing open the hospitals bristles with difficulties. I have not been in the position of having these difficulties brought before me as prominently as many others have no doubt, but I cannot see them in any light which would render the object unattainable. I can imagine that in the cities considerable time might be required for the necessary alterations to be effected, but a commencement could be made at once, even if it consists only of considering the difficulties seriously with the definite object of overcoming them. The sooner they are taken in hand, the easier they will be to deal with. And this is particularly so if the subject is shortly to be complicated by the introduction of intermediate hospitals. In the country I believe it could and should be faced at once. If in one town, say for experiment, the open hospital principle could be once made an accomplished fact, I am sure the success of the whole movement would be assured. Such difficulties as there are, could I imagine, be classed along three main lines, financial, professional and legislative.

The financial difficulties would need straightening out by expert advice. None of us are capable of outlining any scheme which would involve the expenditure of so much money without a special knowledge of conditions and a financial training. But there are some general principles which appeal to the ordinary man as reasonable and which he feels competent to discuss on broad general terms. One can, for instance, assume that the present vast amount of money spent in the State on hospital provision, equipment and maintenance, more particularly when considering the large sums which will probably be required in any case for the provision of new intermediate wards and hospitals in the near future, could be coordinated and used to produce open hospitals instead without very much greater sums being needed. However, I am on dangerous ground in such imaginings, so I shall stick to one little concrete spot in a mass of abstractions.

I have tried to digest the position of the Colac Hospital over the last six years, using its published reports as my guide (see accompanying chart). I make one alteration throughout from the published figures. I have subtracted the isolation block for infectious cases from the calculations as far as I could in all cases. The reason for this is that, these

patients being isolated not for their own good, as is the case in general sickness, but for that of the community, it is the latter not the patient which should bear the charges. The infectious wards should be a direct charge on the local health authority. That being presumed, may I put as shortly and as clearly as I can, the following figures before you. In the public and private hospitals in the town approximately 1,150 in-patients are treated every year. Of these about 450 enter the private hospitals and some 700 patronize the public institution. The expenditure of the public hospital last year was £4,400, the highest it has yet been. The major portion of this was overhead expense, the proportion of this to direct charges per patient having gradually risen up to a ratio of 32:17, which it was last year. The increase in total expenditure has been almost entirely in overhead. When charted, the curve of the number of patients admitted is almost exactly inverse to that of bed cost, but is roughly parallel to that of payments received from patients. The inference from these observations is, that the number of non-paying patients is roughly constant, that the expenses of the hospital are not increased by an increase in the number of patients to any extent, nor by an increased number of days' stay per patient and that an increase in the number of patients by diluting the proportion of those who pay nothing, actually can be relied upon to better the financial position of the institution. We cannot, I think, expect the total expenses to get much, if any, less. The increase has been mostly in wages and salaries which are not likely to fall. Therefore in estimating the probable future cost of the hospital, I have put the figure a little higher than it is at present, namely £4,500. Now turning to the estimated cost of providing for the 450 private patients. The accommodation would probably need to be set at ten maternity and twenty general medical and surgical beds, seven extra nursing staff and three extra domestics. Allowing £16,000 for building and equipment, borrowed at 6%, the interest bill would be £1,000 a year, roughly. Board at fifteen shillings a week for staff and for the patients on an average stay of eleven days would be £900. Extra wages for the staff would be £800. The total extra annual cost could be expected to be £2,700 and the total annual cost for the whole institution, £7,200. We are more in the realm of hypothesis certainly when we turn to the task of estimating the probable receipts from patients under this scheme. The 450 private patients are a definite starting point, however. The usual charge to them in the private hospitals is four and a half guineas or in some cases as much as five and a half guineas. This is not high and could not well be lessened. On this basis they pay at present an average payment of £9 a head to the private hospitals. There should therefore be an assured income to the new hospital of £4,050 at least. If, of the remaining 700 who at present use the public hospital, 300 paid a total lump sum on the average of £6, 300 a sum of £4, and the remaining 100 were entirely free, another £3,000 would be available, and the revenue from patients would be within two or three hundred pounds of the expenditure. In fact, the Government grant would be no longer necessary. The gap could be bridged with a smaller municipal grant than is at present paid or if voluntary subscriptions were continued on a very much smaller scale than is at present the case, the municipal grant could be dispensed with altogether.

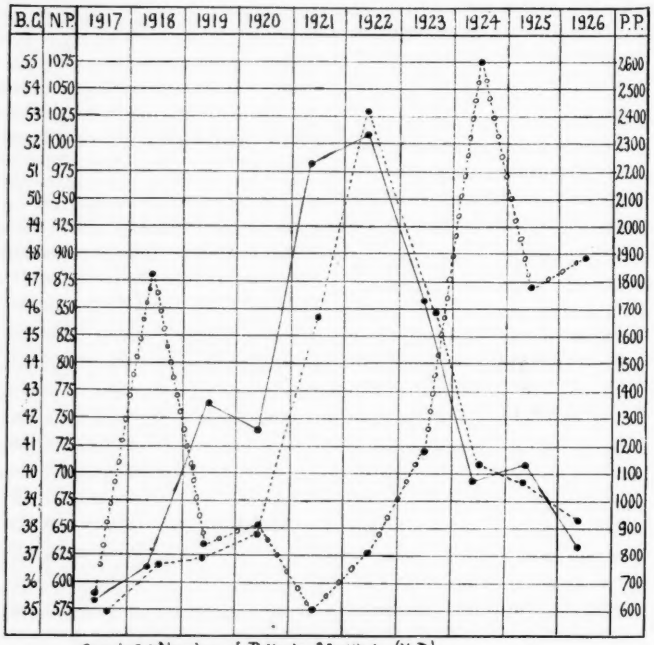

Chart Showing Financial Position of Colac Hospital from 1917 to 1926.

I do not pretend that these estimates represent exactly what would actually happen, but I do think they are not too fanciful to be considered and I claim for them only that they indicate that the financial problem is not insoluble in Colac, at any rate, and if in Colac, why not in other places? It is only asking from the present users of the public hospital an average payment of twenty-eight shillings and sixpence a week.

On the professional side a number of changes would certainly be necessary. These changes are, however, badly needed for the most part now. It is indeed the present system with its essential competition between doctors and hospitals which in the main prevents them from being more speedily and helpfully carried out. It is not in human nature that doctors in the country should take a pride in

developing and enlarging their most serious competitors. I should not therefore call these necessary changes difficulties in the way of altering the system, but additional reasons why the alteration should be brought about. Such, for instance, is the need for organization of the hospital staffs into a corporate body. As far as this implies a certain degree of mutually recognized specialization among the members of it, this is undoubtedly desirable, but presents difficulties of which I can at present see no hope of solution. They are founded to a certain extent on financial grounds, but I believe that personal feelings, sense of professional prestige, predilection for the more dramatic rôles and so forth play a much greater part and are certainly more difficult to overcome. I feel that medical organization will need to advance a great deal further than it has yet done before any such ideal is capable of realization. But a lesser degree of organization of the staffs is possible and is urgently needed. If the sphere of hospital activities is to extend to private patients, this will become by so much the more necessary. The staffs will be enlarged to include all or nearly all the doctors practising in the area and by including them in this organization of the staffs, some hope will be offered of getting better cooperation between doctors and less of the antagonism which at present renders us ridiculous to many people. I am not sufficiently an optimist to believe that the antagonism will entirely disappear, at any rate in my lifetime, but no harm can result from an attempt to secure better cooperation. There also is the need for a certain share in the management and equipment of the hospitals to be granted to the doctors who work in them. This need is pressing now and will be very much more so when we have to depend on the hospital for the treatment of our private patients as well. It constantly amazes me that the profession should have for so long allowed themselves to drift on in a position of inferiority to the hospital committees. Some eighteen months ago, when there was a difference between a certain medical staff and their hospital committee over the matter of a complaint made by a patient, the public were informed through the local press that the doctors must remember that "though voluntary workers, they were none the less employees of the committee." And that is in fact the position we do hold. We are not even classed as subscribers, have no vote at general meetings by virtue of our work for the institution. We are not consulted, unless as a matter of courtesy when relations are good, in matters of building, equipment or nursing. I believe that in some hospitals there are "advisory boards" on which the medical staff is represented, but there is no obligation on the committees to ask or accept the advice of this board. Our patients' welfare and our own reputations depend to a considerable extent on the provision of adequate equipment for diagnosis and surgery and on an efficient nursing staff to carry out treatment. It seems a small demand to make that in return for all we give the hospitals, we should have a voice in the control of these things as a right, not merely as a courtesy. This change is necessary now and though it will be still more so with the extension of the hospitals, it cannot be classed as a difficulty in the way of that extension. A member of the Council of the Branch has voiced the opinion that the advent of the open hospital may mean some hardship to practitioners in districts somewhat outside the towns where these hospitals are. These towns being at present equipped with public and private hospitals, I cannot myself see how their difficulty will be increased. And even were it so, I feel none the less that hardship to individuals must not be allowed to stand in the way of a generally satisfactory scheme. Our service must come first and means of diminishing hardship to individuals must be sought afterwards. One may be quite certain that this aspect will not be considered when the medical organization is being reconstructed from outside, as it will be if we allow it.

The remaining class of difficulty to be encountered is the legislative. This has worn a very gloomy outlook in the past, but all the indications now are that public opinion is taking a very definite swing in favour of the establishment of the open principle. It would apparently need very little pressure at the present time to get provision for the recognition of the principle included in the forthcoming measure for the establishment of intermediate hospitals.

Dr. McEachern's report definitely advocates "the community voluntary hospital, subsidized by Government and municipal grants, in addition to fees from patients, earnings from departments *et cetera* to be the recognized and prevailing type of hospital for the State of Victoria." The Chief Secretary, Dr. Argyle, speaking to the deputation from the Australian Natives' Association on intermediate hospitals, said: "If community hospitals were established . . . every class of the public would obtain better treatment." Sir George Syme is reported as saying that he thought the community hospital idea was rapidly spreading in Australia; that he approved of it and that he considered it the most economical way of dealing with all classes in the community. The Chairman of Committees of the Victorian Branch of the British Medical Association, according to *The Argus* report, said that the economical way to achieve the objects of the Association would be by community hospitals. Alongside this authoritative approval there is I believe an increasingly favourable attitude developing among the members of the profession generally. It would be rare now, I think, to find any disagreement on two points at all events, first, that the community hospital would be an improvement on the present situation, certain varying conditions being given in; second that the community hospital would would be very greatly preferable to a State hospital system. I feel sure that the more deeply it is discussed, the more definitely will medical opinion crystallize in favour of it.

That being so, the difficulties in the way of achieving this hospital reform would seem to be in a fair way to being overcome, if only a sufficient urge in its favour were developed. And nobody is more

competent to develope this urge, nor has the duty of developing it more definitely laid upon it, than has our profession. And that brings me again to the necessity of criticizing, as I have before criticized, the attitude of the profession towards this and other medical reforms. I use the word profession, rather than the words "this Branch of the Association" of set purpose. Criticism of an organized body implies special criticism of its leaders, but criticism of a body without organization lays the strictures on the individual members of it, as well as on its collective spirit. And that distinction seems to me to fit the case in point. It is ourselves as a body, just as much as our chosen representatives, who are to blame for the deplorable position in which we find ourselves in relation to the medical services of the country. There may have been in the past, probably there was, some justification for the attitude of aloofness from everything savouring of politics, adopted by doctors everywhere. A man's first duty was and still is to be a good doctor. That in itself takes so much of his time and thought and reading, that the temptation has been strong to leave schemes for medical and social betterment to those who had more time for it. The latter even come under a certain cloud of suspicion in the minds of many of us, that because they do interest themselves in these things, they are not devoting themselves purely to their profession as they should do. But the growing complexity of modern life, the growing demands for organization in all paths of work and the equally growing knowledge of and interest in medical and public health subjects among the lay public have overtaken us and passed us by. Social movements of a more or less purely medical cast, many of them invaluable, have been thought out, financed and set in action by men and bodies entirely outside the medical profession. The latter has even become tacitly regarded as hostile to them all, because our only steps in the inauguration of them have been in the nature of "safeguarding our interests."

The position is peculiarly well emphasized in a recent press report. Outlining a scheme for the provision of casualty service stations in Melbourne, the Secretary of the Charities Board said at the end of his description: "I do not know how the medical profession will view this." I do not suppose Mr. Love intended this remark with its context to convey the mental picture it will certainly bring up before the minds of nine out of ten of the people who read it that of a medical profession jealously watchful of its own interests and requiring careful placation before any such scheme for the benefit of the general public can be brought to fruition. But if he did, he has no need to apologize for it. If you will think out our position carefully, you will see that that is exactly descriptive of it. It is a strange irony that the only class of men in any community who make it a regular practice to do a large part of their daily work for nothing, should be in the mass so suspect to and so unpopular with the general public. But there is no one in the world to blame for it but ourselves. In the first place we have remained passive and have allowed the principle of our free service to be extended to such an extent that no social reformer has any qualms about including a further extension of it in any scheme he brings to light. In the second place we have allowed every single reform measure to come into being without any aid from us, nor any interest except such an attitude as the "armed neutrality" involved in the procedure of "guarding our interests." The Public Health Service being a Government department and its work of a highly specialized nature, it is inevitable that this branch of our profession should be to some extent divorced from the main stem. But there is no justification for our attitude towards such movements as the Bush Nursing and Baby Health Centre Schemes. Granting that some medical men did of their own volition actively interest themselves in the inception of these two movements, we as a profession played a very inglorious part in it. And now that they are established we regard them at best with approval, tempered by fear lest they should encroach on our medical preserves. At worst, our members show a frank hostility towards them and their local representatives and unfortunately this attitude which is adopted by a certain number of country men, is popularly regarded as being the attitude officially taken up by the profession. No one can claim that these two movements do not interest or affect the medical profession. They are directly auxiliary to our own work and are minor parts in the same service in which we doctors play the major rôle. Coming even nearer home, the training and efficiency of nurses and the type of women enlisted into the nursing service are very vital elements in our medical system. Yet interest in the recent reforms in these matters has been almost entirely left to the nurses' organizations themselves and to the hospitals committees. Is our interest in this matter less than that of the Australian Natives' Association? The Chief Secretary had to receive a deputation from this body, ill-instructed though it was. It was not the medical profession who took the necessary steps to obtain for the country the recent most valuable inspection and report on our hospital system by Dr. McEachern. Lay bodies, from Parliament to the churches and friendly societies, are actively bestirring themselves in the matter of intermediate hospitals. And finally when a layman—a man most competent to do so certainly—propounds publicly a scheme for a large extension of medical service to the public, he has to confess that that he does not know how we will take it, with an implication that we probably will not take it very well. I do not wonder that such an observer as Dr. Rosenberg says that we are gradually being nationalized. The process of being nationalized has been going on for a long while now. It will continue to progress to its logical conclusion, whether we like it or not, unless we show in our own ranks more of the spirit of reform and less inertia.

In the leading article of THE MEDICAL JOURNAL OF AUSTRALIA for August 7 last, the following sentences occur: "It is evident that there is urgent need in

Australia for the elaboration of a policy and the laying down of broad principles in keeping with the changing aspect of medical practice in hospitals. . . . There is urgency in regard to this matter. . . . Lethargy and want of decision are much too common in medico-political matters in Australia."

There is a chance now for us to take a definite hand and perhaps even yet divert the rising tide of nationalization which threatens to overwhelm us. We should gain in self-respect and in respect from the public, if we showed ourselves able to depart from our traditional attitude of caution and boldly proclaimed ourselves the champions of reform in our own domains.

STAMMERING AS A PSYCHONEUROSIS: A PLEA FOR CORRECTIVE MEASURES.[1]

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IN addressing a gathering of those whose aim is the recognition of the psychic factors in the young it seems scarcely necessary to point out the fact that stammering may and does constitute a great handicap in life to any child who may suffer from such a disability. Yet it requires always to be emphasized. Stammering is one of the tragedies of life that indirectly warp the forces of the brain and tend, if not to wreck, at least profoundly to modify the psychic organism. The uncertainty and the disappointment attaching to this condition can be personally better felt than expressed when looking back over half a lifetime spent in trying to find some relief from this speech defect and in endeavouring to counteract the tendency to morbidity of outlook which it is apt to engender. When a child is beset by this condition, the desirability of mapping out its future is forcibly driven home to both parents and teachers. Natural abilities of no mean order have frequently to be made subservient to those of much inferior quality and natural tastes misdirected to some other career than that of the ordinary professional or commercial training. It is therefore particularly important that some effort at cure be made before the commencement of school life if only for the reason that a certain amount of teasing or mimicry by a child's companions must accentuate the misery and the child's whole morale, apart from the moulding of the mental processes, must be undermined. It is requisite also that much care be considered in the light of temperament and constitution of the affected individual.

What is Stammering?

Stammering must be regarded as something quite other than defect of speech as a whole. Speech is in reality an internal process of thought. It requires to be learned by a slow development of association between various brain areas. Such associative relations become in a short time complicated and it is not difficult to recognize that with profound emotional stress states of dissociation may be readily exhibited. It may be without articulation at all, as for example by gesture or by symbol as in the case of the deaf and dumb. It is only when speech becomes external that words are commonly employed for its expression. This distinction is especially important for all teachers to bear in mind, for a stammering child may be wrongly regarded as of impaired mentality or deficient intellect. Stammering or stuttering is then the result of a want of coordination between the respiratory muscles and the muscles which are concerned in articulation. In my opinion this has a psychic basis with or without psychical trauma. Some adults who stammer, have at special times and in order to adapt themselves adequately to their environment (for example, speaking at some social function or other) to get rid of their self-consciousness—the fear and dread of it. It was noted during and after the war amongst many returned soldiers who were in classes and under treatment for stammering at the Repatriation and Defence Department, that to get rid of their fear at expressing themselves at "welcome homes" and receptions, they used to bring about relaxation by taking some form or other of alcohol. There is no effort and no straining and their confidence can be established. It is probable then that stammering as a process, a "dissociation," is not different in essence from that in other neuroses, that is, a dissociation of certain more or less highly specialized psycho-physical processes from the main personality. To speak it is necessary that there should be sound-production or in other words that vocalization is distinct from articulation. The latter as a speech process is wholly psychical whilst vocalization is only partly so. Articulation which is thus under psychic control can be inhibited to a degree, thus producing relaxation with slurring speech or an even smooth drawl.

If one reflects on the complexity of the innervation of the muscles of the lips, tongue and the larynx and vocal cords, the marvel is not that a few individuals stammer, but that so many are able to function properly. The point to keep clearly in mind is that there is no necessary organic defect in the muscles or in the nerve but a disturbance of their function. Some of the muscles pass into a condition of temporary "spasm" and this may even be the case with the diaphragm whose musculature is almost entirely concerned with breathing. Stammering or stuttering is therefore an example of what is called a pure neurosis or psychic disturbance of function. The processes of speech which should have become automatic, are inhibited by some defective functioning of areas with which the will power is concerned.

Why Should the Speech Function be Disturbed?

Commonly stammering is an evidence of what is called nervousness. That is in my judgement an erroneous conception. The nervousness which is undoubtedly associated with stammering, should

[1] Read at a meeting of the School Group of the London County Council Medical Officers and Medical Officers of Health Society of England on October 16, 1926.

rather be looked upon as one of the effects and not the cause. The more self-consciousness developes, the greater is the manifestation of nervousness in the sufferer. In other words a child does not usually stammer because he is nervous, but is nervous because he stammers. At uncongenial times and places his mind is on his speech misfortune and he tries to conceal it. Too often the child's fears are met with harshness or ridicule or misdirected help instead of kindness, sympathy and explanation. A few words may be said here as to the common manifestation of the trouble. The difficulty is usually shown in the initial explosive consonants during articulation. Certain letters (no two sufferers fail in the same consonants or stammer alike) present more difficulty than others, for example, words beginning with *p* have too many *p's*, similarly in *b*, *t*, *d* and *c*, *k*, *g*. There is a frequent repetition of this initial letter. The word is then suddenly ejaculated and the succeeding words are uttered very rapidly until their flow is checked by a fresh obstacle. There may be associated grimaces caused during the effort to speak. The sound is no sooner made than it is dwelt on, or returned to and repeated by a loose spasmodic closing and opening of the lips thus: P-P-P-P-Peter Pip-Pip-Piper.

The stammer is not in reproducing the sound. Vocalization is quite distinct from articulation. The intense consciousness of the stutter leads to another stage in the defect, namely a tendency to check and hold the speech organs, a reflex spasm, a fear complex. *P* which ought to move and explode at the lips refuses, *t* (tip of tongue to upper teeth), *k* and *g* cause a choking gurgle.

At the same time, however, the definition of stammering as a pure neurosis does not dispose of our difficulty. In the search for some working hypothesis it is requisite to form some notion of what causes the neurosis. You are all doubtless more or less familiar with the modern psychological teaching of Freud and Jung and their followers in which the various "neuroses" recognized by clinical observers are explained in the theory of repressed emotion. A flood of light has been thrown upon some of these manifestations by the experiences of the Great War. A very considerable number of soldiers who had been exposed to terrifying experiences of bursting shells or to being buried in explosions, developed stammering as a result. In some of them it was a remanifestation of a defect they had overcome. In others it was an entirely new development. There can be little doubt that in these and most other examples of what is now termed shell shock the repressed emotions of fear produced a dissociation of mental functions which in certain cases resulted in stammering. Many of these patients have been successfully dealt with by the modern method of psychoanalysis and suggestion either with or without hypnotism, but these measures are not sufficient, unless reinforced by a reeducation of the rhythmic interaction of breathing and articulation. From this experience it seems clear that in stammering there is what may be called a psychosis and that it is usually associated with some repressed emotion of fear. Such may possibly be the case in childhood. Children who stammer are highly organized and of hypersensitive type, born with psychasthenic stigmata. Stammering originates in many ways, but most commonly (with a history of fear or shock) after acute fever, whooping cough, fright or prenatal instability. Mimicry is also a potent factor. Uncongenial surroundings certainly exaggerate the condition. The importance of careful and considered treatment in every case is especially to be insisted on because the psychic element in schools and neglected instances at home may pass on to one of actual mental morbidity or misanthropy or they may become a misfit by growing up with all the stigmata of the neurotic in their mental make-up, the tragedy of natural abilities condemned to impotence and disuse.

How May Stammering be Overcome?

The rational treatment of stammering may now be understood upon the basis of the underlying causative factors which have been briefly outlined. The careful preliminary general medical examination with elimination of hyperthyreoidism, septic tonsils and masturbation, the adoption of suitable sympathetic surroundings may be taken as granted. The special measures fall under two heads, the first directed to the psychic complex and the second to the endeavour to reestablish a harmonious interaction of the muscles of articulation and respiration. The whole success of treatment depends upon creating in the patient's mind a feeling of confidence and self-reliance and when possible especially explaining the methods with autosuggestion. The endeavour must be in this direction to overcome all sensitiveness and bring about a smoothness of mental balance. The family circle and friends should comprehend that their help is needed, when they are made fully conversant with the technique. Personality is an invaluable factor in helping to encourage and to allay natural emotion of fear. Any repressed complex likely to instil or perpetuate nervousness should be patiently sought. It may be necessary in severe cases to begin with isolation from friends and relatives and to allow the sufferer to test progress with strangers. Irritability and misplaced sympathy will militate against a successful issue. A sympathetic knowledge of child nature will on the other hand be an asset of the most powerful assistance. "Left handed" stammerers and squint cases have been previously dealt with.

Medical attention has lately been drawn to the problem of child fear, a matter first popularly emphasized by George Eliot.

We are apt to forget that a child's sense of justice is very keen and its sense of presumed right and wrong very lively in accordance with what principles it has been taught. A child easily becomes sullen, suspicious and introspective, if wrongly punished. Harshness and ridicule are often misplaced in the treatment of children and are never appropriate in dealing with the stammerer.

"Inferiority complex" plays a predominating part in that patients feel they have developed a sense of inadequacy; they cannot assert themselves and act

accordingly. They choose their own paths, those of least resistance. Such a complex constitutes almost a complete bar to intellectual and moral progress with inhibition of sporting and other instincts. At school they dread the work and cannot contribute to discussions with advantage until silence may be evoked in the class from scorn and ridicule. Their intelligence is liable to be underrated and misjudged. The pains and unhappiness of a pupil at such a distinction need to be experienced to be realized. The more intelligent the stammerer, the keener becomes the discomfiture and the requirements of school life strengthen the consciousness of their disability and beget a morbid outlook. For the stammerer may find that despite his utmost efforts to get rid of the incubus the centre core of fear and psychic disturbance persists. "No man," Bacon said, "can speak to his child but as a father," and parental fear is the basis of many anxieties. Such fears are liable to work havoc in the underworld of their minds.

In war cases to employ with gratifying results the method which has been termed "abreaction" for eliminating the repressed "fear" complex, the sufferer is hynotized and while in that condition is induced to recall and live over again his terrifying experiences, which though buried in the subconscious mind are still a disturbing psychosis. The hypnotic procedure would not be applicable in many of the juvenile stammerers, but a patient effort must be made here as elsewhere to eliminate any fear neurosis.

In an attempt to overcome stammering from any cause rhythmic breathing is first practised as in yawning, then sound is added as in sighing. The sound of all the vowels is then produced in an intentionally careless drawl. This drawl or relaxation is important and should resemble the slurring careless speech of alcoholics. Only the vowel sounds should first be permitted, later on articulated words may be used, each vowel should be definitely extended and one or two syllables should at first be used. This rhythmic sound can be modulated from soft to loud and altered in musical pitch, time being kept by the hands or the feet or by slow walking and in perfect relaxation (swaying). Sometimes the piano scale is used. To exemplify this procedure some form of military drill can be shown and explained to emphasize the importance of the muscles being loose and limp, that is, "standing at ease," physically and mentally. As herding has been found invaluable, the members of the class formed help each other by engaging in vocal drill for the purpose of reestablishing and sustaining vocalization. This procedure will create in the patient's mind a feeling of confidence and self-reliance, when explanation and persuasion will show how and where the trouble exists. It must be understood that the sufferer must realize the serious disadvantages ahead and that no cure can be guaranteed or even offered. True stammerers are born not made, possibly on account of their psychasthenic "make-up," though their symptoms may be in abeyance or inhibited to a degree.

Singers and elocutionists who are stammerers do not stammer whilst singing or reciting. They lose their self-consciousness as the result of complete self-effacement. They rhythmically open the mouth and accentuate the vowels to such an extent of resonance that the consonants play a small part, thus making the articulatory sound prolonged. Similarly there is no stammering if the voice is not raised above a whisper, as the voice is not involved, hence there is no straining of the articulatory mechanism and no interference with the psychic organism.

For vocalization purposes the letters of the alphabet followed by counting are practised after the method of the vowels and the consonants which cause the stutter are noted. These troublesome letters are practised with the vowels alone and with simple nursery rhymes in which the prolongation of the final part of the word into the beginning of the next is an all-important feature. At first this singsong utterance or montonous drawl or lalling breaks down the barrier of want of confidence and barrenness of hope, the frustration of normal activity by fear in possession.

There is now no self-consciousness and the sense of personality has developed, so that the difficulty common to them all has been recognized—the fear complex. "They have the goods and they can deliver them. They can put them in the shop window."

The ramifications of the inhibitory system are ended. They may read newspaper headlines and later papers discussing what they have read or they may have a general conversation and a description of current topics so that the speech is free and easy and conducted in rhythmical cadence with an agreeable soft, smooth voice. General conversation and a house telephone can be met in the same slow easy manner until lengthened and full vowel sounds and general deliberateness are incorporated. Each individual must be taken as a unit and made to understand that reeducation is employed as a mechanism to remove life's handicap and the horror of disorientation. A far-reaching and conclusive result will be gained when the accustomed environment is met by the patient with the will and determination to get well, casting off the cloak of concealment and reserve. Deliberate action must be introduced to develope this psychic result and all discouragement waived, autosuggestion playing a predominant part throughout. Some types of work will be greetings and rejoinders, various forms of reading, conversation, description and narration, speeches and debates, recitations and such other interests as may be suggested by the ingenuity and self-reliance of the patients. Portions of this work will be done while the members of the class are in a condition of self-induced relaxation. Treatment by suggestion may also be given. The class may in turn form itself into a school, a store, a family circle, a mutual improvement club, a reception room *et cetera*.

Whenever difficulty is presented at the beginning of a word or whenever the special consonant—labial or dental *et cetera*—throws the sentence out of gear, it is advisable to omit the difficult initial consonant and to emphasize in length the succeeding vowel or

the vocal element of the consonant, for example, about three or more swings of the pendulum or metronome for the vocalization part of speech.

Under personal supervision about an average of two weeks should suffice to correct faulty technique and to bring about abandonment of reserve with psychic control, thus giving perfectly free vocalization. In children who are not old enough to appreciate what their speech misfortune means, or who have not left the *Kindergarten* school stage, it is imperative, before the conflict becomes a fixed habit, that this condition should be treated before further school education is advanced and the parents should be presented with a clear picture of the psychopathic problem and the fact that by their own misplaced efforts at control they are singularly responsible for its peculiar state of psychic derangement.

Mimicry, as elicited from many histories of stammerers, must be regarded as a subconscious expression of a habit, formed by the mental processes being in a state of receptivity. If it is not corrected in its early state and if its significance is not recognized, it will become a fixity and a true stammerer must eventuate. The gravity of it depends on the idiosyncrasy of the patient and the environment.

Stammering is rare among all native races on account of their sing-song utterances. Anglo-Saxons who stammer, lose their disability in the study of Eastern languages because they have subconsciously learnt to acquire the necessary soft tones; besides losing their inferiority complex. In attaining this proficiency they overcome the psychic fears by achieving a new method of speech by the intonation of the parts of vocalization which require no psychic effort. This is in reality a form of reeducation which brings into play certain agreeable soft sounds with rhythmical cadence and ease of expression.

The so-called "hysterical stammer" exemplifies the state in which there is no disturbance of the physiological mechanics of language, but a peculiar disintegration of some highly developed function. Unnecessary syllables are interjected into the stream of speech; the patient is not held up like a true stammerer by difficulty in reproducing some word beginning with a consonant or labial, but the speech is interrupted by a series of perfectly articulated sounds.

In conclusion it is necessary that all self-consciousness and reserve should be absent and the voice and vision aimed at the person addressed. Fear of ridicule must be removed as much as possible and special stress laid on the fact that stammerers must not try to conceal the painful defect nor attempt to speak with their mind on their affliction. This self-negation intensifies the strained effort and brings about grimaces tantamount to a storm. They should know and it should be instilled into their minds, that their bondage of fear is not hidden and their misfortune is well recognized. It is obvious to all their associations and those living within the orbit that they are suffering mental pain besides exhibiting physical distress. They will find that by speaking slowly, softly and deliberately their stammering will be impossible and their controlling influence will be strengthened beyond their expectations.

The aims of treatment summarized are: The elimination of the fear complex, the replacement of strain by ease, a changed outlook on life and the development of an agreeable method of speaking from which will proceed an intimate interaction with these.

I would thou could'st stammer that thou might pour out this concealed man out of thy mouth as wine comes out of a narrow-necked bottle, either too much at once or none at all. I prithee take the cork out of thy mouth that I may drink thy glad tidings.

"As You Like It," *Rosalind*, Act III., Scene 2.

RADIOTHERAPY: WHY IS THIS FORM OF TREATMENT NOT MORE GENERALLY EMPLOYED?[1]

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I HAVE been asked by your Secretary to read a paper and have chosen the subject of the causes why radiotherapy is not more generally employed. As my experience has been very much more concerned with deep X ray therapy than with more superficial or with radium treatment, my remarks will be devoted more particularly to the former as applied to Australian conditions. Although a great deal of experience during the last ten years has been accumulated abroad and well over four years in this city and the results communicated in various ways through the medical journals, it remains a melancholy fact that whether through general ignorance, prejudices or various other causes, today it is much less applied than it should be.

That this does not apply particularly to superficial therapy is well shown by the fact that dermatologists as a whole are the only specialists who really appreciate the therapeutic value of irradiation, so much so that X ray equipment with or without radium forms practically the most important part of almost every skin specialist's armamentarium. The dermatologist at least is in a position to see his lesion in every case and to follow up the effect of treatment from time to time and thus more accurately to appraise its value than is the case with most other specialists.

What, then, is the cause of this failure to take advantage of this method of treatment? There is not the slightest doubt that the most important reason is lack of education of the student as well as of the general practitioner and specialist of every kind. Provision is made for instruction in various subjects, usually with an extraordinary

[1] Read at a meeting of the Radiological Section of the Victorian Branch of the British Medical Association on September 9, 1926.

attention to detail, which, by the way, is not disputed as being of inestimable value. But to my knowledge not a single course of lectures upon radiotherapy to either students or graduates has ever been given in this city. When radiotherapy (leaving out superficial therapy as practised by dermatologists) is mentioned as a method of treatment at all, the information generally given on this point is extremely meagre and conveys the impression that it is of no very great importance.

There have been various demonstrations at clinical meetings from time to time, but extremely little interest is taken in them. At the special demonstration for which a small subcommittee was appointed to insure that only properly selected patients who had undergone deep X ray therapy, were chosen, arrangements were made at the Medical Congress in 1923 to show these patients. Those who turned up to view my own collection, scarcely numbered a dozen and there was hardly a single radiologist amongst them. As a matter of fact, at each demonstration at the Austin Hospital radiologists, as a rule, are very conspicuous by their rarity. If radiologists, then, show so little interest in radiotherapy, it is small wonder that the leaders in other branches of medical practice should likewise be apathetic. I refer more particularly to radiologists who do not practise deep X ray therapy, including those who attempt to treat even the deeper seated lesions with comparatively soft and non-penetrating rays.

The second important reason appears to be the general impression that deep X ray therapy has not proved of any value. This opinion seems to be prevalent amongst members of our profession who have perhaps not had experience of a single case which they have seen. Others perhaps base their opinions upon isolated patients, possibly unsuitable, who have not done well or if suitable, did not happen to respond. If a surgeon removes a malignant breast and the patient recovers from the operation, even though she may not survive more than two or three months, the results may be considered satisfactory. But if another carcinoma of the breast, duly pronounced malignant by a competent pathologist after histological examination and declared inoperable by one of our most noted surgeons, subjected to one or two exposures to deep X rays, despite previous failure by prolonged exposure with softer rays, is entirely healed and remains free from any trace of recurrence or metastases for a couple of years, one is still faced with an extraordinary amount of scepticism and incredulity. Of course, the sceptics and unbelievers cannot be induced to attend any of the demonstrations and these include most of the leading members of the profession.

There is a lurking suspicion or perhaps belief, that deep X ray therapy is a rival or alternative to surgical operation. Personally I have always insisted that other methods of treatment should be used when applicable and have never, except in very special circumstances, failed to refer the patient for consultation when operation is indicated. In fact, intelligent cooperation with the patient's own advisors in all cases is essential for the best results. I have been humiliated more than once by referring a patient to a surgeon with a recommendation that operation be supplemented by deep X ray therapy. The operations were duly performed, but the patients were not referred back for deep X ray therapy. At Erlangen some seven or eight thousand patients with uterine carcinoma were treated by Wintz and Seitz by means of X rays and only one by operation. The results, as judged by the standard of five years cures, are reported to be an improvement upon those obtained at any other clinic where extensive operative procedures alone have been the rule.

Of course, it cannot be denied that there are very many failures or even that a large proportion do not respond to treatment in any way, but this likewise applies to every other mode of treatment. As it is, the condition of the majority of patients referred for treatment is hopelessly advanced and has generally failed to be relieved by other measures or at least is pronounced beyond possibility of relief. There is, however, no justification for the opinions given to a very emaciated patient suffering from splenomedullary leuchæmia who was told that nothing could be done for her. After a dose of irradiation was applied over her spleen, she was very rapidly transformed into a new woman. Even in last week's issue of THE MEDICAL JOURNAL OF AUSTRALIA in the discussion of the treatment of a parotid growth, there was not the slightest allusion to X ray treatment, although it was proposed to remove the whole gland. Yet in a patient aged seventy-one years, with extensive parotid growths, submitted to deep X ray therapy, every trace of the tumour disappeared in about a fortnight, nor did it recur for at least two years afterwards.

With regard to the diagnostic value of X ray treatment, radiosensitive growths can be recognized or excluded by application of a single dose. In the more typical cases a fortnight gives a most definite indication as to the response or otherwise. Indeed, there is no doubt that many amputations for malignant growths might be avoided by applying the diagnostic test in this manner. If especially sensitive, treatment, perhaps the only effective one available, is thus carried out at the same time. As an instance, a patient whom I treated well over four years ago, for what was diagnosed as Ewing's endothelioma of the humerus, is now completely free from any clinical evidence of the growth. She certainly owes her limb and most likely her life as well to the fact that the growth in the first instance was far too extensive for any attempt at surgical removal.

The third factor associated with this question is the belief in serious injury to unaffected tissues and more particularly in so-called burns to the skin and other superficial structures. There is also a belief that operative wounds do not heal after X ray treatment. No doubt in the past there have been such serious injuries and I have witnessed the terrible plight in which some patients have been left,

but these are usually the result of treatment with softer rays. Today there is not the slightest excuse for X ray "burns" as owing to improvements in modern apparatus the doses can be much more accurately calculated than in the past and by modern methods an adequate dose to deep structures can be given without any injury to the overlying tissues. As an instance of the harm which has seriously prejudiced the treatment, I have seen the effect of prolonged irradiation without proper medical supervision of a patient suffering from general psoriasis; the skin of the entire body atrophied and became indurated with telangiectases, loss of hair *et cetera*. Yet in my own practice I have not experienced a single instance of even a mild "burn" amongst patients whom I have treated.

One of the serious discomforts associated with the treatment is irradiation sickness which may come on when the exposure is completed. The exposure itself causes no discomfort whatever other than what might be caused by the uncomfortable position and restraint. Many patients experience no distress throughout and are much surprised in consequence. Others, in fact, following treatment are nauseated in a manner similar to that associated with post-anæsthetic vomiting, but generally not so severely. In the most aggravated case the distress is not so severe as after a major surgical operation.

There is no truth in the belief that irradiation delays healing of wounds. As a matter of fact the opposite is the case, for X rays are frequently applied for the special purpose of hastening reparative processes.

The alleged high cost of treatment is stated to be another reason against the adoption of deep X ray therapy, yet this despite the very heavy cost of efficient apparatus is as a rule rather less than operative treatment. Treatment by a single massive dose is less costly than treatment by many repeated smaller doses. However, it is possible in this city to treat every suitable patient, rich or poor, just as surgical or other treatment is available to everybody.

Objection is frequently taken to the administration of massive doses. It is not generally realized, however, that such doses, especially if responsive, may not need to be repeated and that in any case they are rarely repeated more than once or twice.

As an instance, a patient suffering from a myeloid sarcoma of the ilium was in very great distress from pain and consequently considerable difficulty was experienced in manœuvring her into the various positions for treatment. Had the treatment been incomplete, she would certainly not have consented to the torture of another ride in the ambulance nor to further exposure. As it was, she rapidly improved, has had no further treatment and was walking about three years after treatment.

It is, however, quite true that many experienced radiologists of note recommend the divided dosage, generally upon theoretical grounds, but there are many reasons why I still prefer the intensive method of treatment and endeavour to check the growth at a single application.

The only remedy for the neglect which has overtaken this specialty is a more organized plan of education. Nor can it be expected that our teachers will make any move, unless more interest is shown by this Section. It is an anomaly that so many patients are referred for treatment by friends who have particularly benefited, whilst their own medical advisers are ignorant of the value of the treatment. It therefore behoves this Section to take immediate steps to insure that more adequate instruction is given to students and graduates.

Summary.

The chief reasons why irradiation methods of treatment are not more generally employed are:

1. General ignorance and want of instruction, not alone amongst the rank and file of the profession, but even amongst its leading members who fail to take the interest in the problem which it merits.
2. An impression that deep X ray therapy has not proved of much value, due partly to an expectation that treatment should be effective in most advanced or even hopeless cases. Failure to attend demonstrations is a contributing factor in this direction.
3. A belief that serious injury results to unaffected tissues, such as the so-called "burns." This should never happen from the employment of modern apparatus and accurately measured doses by modern methods.
4. Minor contributing causes are an exaggeration of the patient's discomforts and the erroneous belief that irradiation in proper doses delays healing. The cost of treatment is not greater than surgical treatment, whilst treatment by massive dosage is cheaper than by divided doses.

Reports of Cases.

AN UNUSUAL TYPE OF INTUSSUSCEPTION.

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THE patient was a female child, aged six years, seen for the first time at 3 p.m. on October 27, 1926. The following history was obtained. The patient had been perfectly well until Sunday morning, October 24, when she was suddenly taken ill with a "bilious attack." She had eaten green strawberries the previous afternoon and, in consequence, was given a dose of *oleum ricini* with the desired effect. The bilious attack, however, continued as evidenced by vomiting and diarrhœa, pain not being a pronounced feature. On the morning of October 25 the *oleum ricini* was repeated and was again effective. During this time the child's condition caused the relatives no anxiety; she could not be kept in bed, but played and ran about as usual. On Wednesday afternoon, the fourth day of illness, the relatives became worried merely because the child was getting no nourishment; she was vomiting everything, even water. There had been no bowel movement for two days. There was no history indicating disturbance of any other system.

On examination it was noted that the child did not appear to be very ill—merely a little off colour. She was bright and intelligent, answering questions well. Her

temperature was normal and her pulse rate 110. The respirations numbered 26 in the minute. The tongue was moist, but slightly furred. The breath was odourless. No abnormality was detected in heart or lungs. The abdomen was somewhat distended and tympanitic on percussion. There was no muscular rigidity, local or general, and palpation was not difficult. There was no tenderness, no tumour was felt, nor did the right iliac fossa feel empty. In reply to questions the child said she had had no abdominal pain "for a long time." There was a suspicion—unconfirmed—of free fluid in the abdomen. The vomit consisted of bile-stained fluid with the usual gastric odour. The patient was seen again at 9 p.m. the same day in response to an urgent call. She had suddenly become worse. Until 5 p.m. she had been running about and playing. She then complained of feeling ill and went to lie down soon becoming restless and delirious. She had continued to vomit everything taken by mouth.

Her condition had completely changed. She was delirious, with hollow cheeks and sunken eyes; the respirations numbered about 40; the pulse was not palpable at the wrists which were cold and clammy, but the heart rate was about 170 by stethoscope; the temperature was 39·4° C. (103° F.). Nothing abnormal, save only increased rapidity of function, was detected in heart or lungs. The abdomen was as at the first examination, though it was possibly a trifle more distended and felt very hot to the touch. A consultation was requested, but before the consultant, Mr. Frank Gill, F.R.C.S.E., arrived, three-quarters of an hour later, the child died. He closely cross-examined the relatives, but nothing further was elicited; the diagnosis remained in doubt and a *post mortem* examination was ordered.

I am indebted to Dr. D. S. MacKenzie for the following *post mortem* report:

> The body was that of a well developed child. The eyes were sunken and the facies pinched. The colour was pale. Yellow, sour smelling vomit was running from the mouth. The abdomen was tense and distended. No tumour was palpable. On opening the abdominal cavity the coils of the small intestine were found to be distended and inflamed, the right iliac fossa was occupied by a large sausage-shaped tumour. This tumour was an intussusception of the ileo-colic variety. The intussusception started from a long Meckel's diverticulum which had plainly invaginated itself into the ileum and then the ileum in its turn had invaginated the caecum.

In view of the *post mortem* findings the relatives were further cross-examined and it was discovered that the original "bilious attack" was characterized by rather severe spasms of colicky abdominal pain which caused the child to double up; the spasm over, the child resumed its playing. Also emerged the fact that the child was continually going to stool and straining but apparently passing nothing, certainly no blood. The *post mortem* examination provided a ready explanation of the rather unusual symptomatology. The condition commenced as an invagination of the extreme tip of Meckel's diverticulum—represented clinically by the initial bilious attack with pain more severe than usual, but not so severe as that of a typical intussusception, although it displayed the periodicity of such. As at this time there would have been no obstruction of the lumen of the intestine, the first dose of *oleum ricini* was naturally efficient. At the time of the second dose of *oleum ricini* (on the following day) the condition had probably not advanced beyond that of a partial intussusception, hence the lumen of the bowel would not have been completely obstructed, consequently the oil was again efficient. This history did not suggest intussusception.

There remain several other points worthy of note:

1. The vomit on the fourth day consisted solely of bile stained fluid with the usual gastric odour. Was this due to the fact that two doses of *oleum ricini* had completely cleared out the intestinal tract?

2. The breath remained odourless, giving no suggestion of serious intestinal trouble.

3. The extraordinarily sudden collapse and death of the patient. Until 5 p.m. on the fourth day of illness the patient was alert and playing about as usual. At 10 p.m. she was dead.

4. The comparatively common failure to palpate the tumour. No anæsthetic was administered, since the child's condition when first seen gave rise to no anxiety whatsoever, nor to any suspicion of intussusception.

5. The absence of blood in the stools.

H. L. Barnard writing in Allbutt and Rolleston's "System of Medicine" mentions intussusceptions owing their mechanical origin to the inversion of diverticula into the intestinal lumen as forming a definite group, the diverticula mentioned being Meckel's, the caecum, the appendix and the angles of the colon. The inversion may begin as a dimpling at its end (as in this case); probably a common method of origin in caecum, angles of colon and in some cases of Meckel's diverticulum. In the appendix always and in Meckel's diverticulum usually the invagination begins at the base as a prolapse of the mucous membrane probably due to spasmodic contraction of the muscular coats of the diverticulum. Hence in this case we have an uncommon form of a rare type of intussusception. Many diverticula which become invaginated, never lead to intussusception probably because they are soft and their normal mucous membrane covering is a feeble stimulant to peristalsis in the coil below. The chief papers of interest bearing on an inverted Meckel's diverticulum as the point of origin of an intussusception he gives as follows: by Küttner (1898), Halstead (1902), Corner (1903) and Watson Cheyne (1904), who had collected sixteen cases.

He goes on to state that the clinical history of these cases is often prolonged, but they frequently terminate acutely. This form is very apt to lead to double (as in this case) or even triple invagination. The diverticulum may advance to the ileo-colic sphincter and even through it. It then becomes strangulated (as in this case). Having become tightly fixed a second ileo-caecal intussusception is added.

I am unable to find any explanation of the cause of the dimpling at the tip of the diverticulum, which was apparently the origin of the whole condition. In two cases reported an accessory pancreas at the apex of the diverticulum is put down as the cause, though exactly why the presence of such should cause a dimpling in a small and narrow tube with a poorly developed muscular coat remains obscure.

Reviews.

A MONOGRAPH ON PERNICIOUS ANÆMIA.

MEDICAL monographs written by acknowledged authorities form the most interesting of medical books and the new series of "Medicine Monographs" has as its latest addition "Pernicious Anemia," by Professor Frank Alexander Evans, now of Pittsburg, but formerly of Johns Hopkins University.[1] As in every new book or article on pernicious anæmia there are two chapters which are usually read first—that on ætiology and next that on treatment. But having looked through these most readers will find that the author's style is so easy and attractive that they will begin at the begining and read solidly on to the last page.

Superstition in pernicious anæmia dies hard and probably nine students or practitioners out of ten if asked how they recognize pernicious anæmia, would answer "by the presence of megaloblasts in the film and a colour index greater than one." So heavy does the teaching of Ehrlich still lie on our schools.

Dr. Evans's first chapter on "Definitions and Classification" would give such a student much food for thought, Take, for instance, the short description of the relations of iron to hæmoglobin loss and colour index. The author concludes by saying "a high colour index does not mean that the anemia is primarily a hemolytic anemia due to increased destruction of blood in the body as in pernicious anemia. It means only an anemia of long and slow development." In a separate group he would put the anæmia due

[1] "Pernicious Anemia," by Frank A. Evans, M.D.; 1926. Baltimore: The Williams and Wilkins Company. Demy 8vo., pp. 178.

to inhibition of hæmatopoietic activity alone—the so-called primary aplastic anæmias.

He also points out that when long continued blood destruction has been going on, various organs in the body may easily suffer thereby and among them the red cell forming areas. Thus if long continued blood destruction is going on in the body, the picture of ordinary pernicious anæmia is produced; should the bone marrow suffer owing to the already present anæmia, so becoming unable to produce even miniature forms, the typical condition of aplastic anæmia would arise and this is not infrequently the final picture in pernicious anæmia.

The writer is constantly insisting on the fact that pernicious anæmia indicates an entire symptom complex, each feature of which is as important, if not as prominent, as the anæmia itself.

What these features are we have given us at full length in the chapter on pathological anatomy (what a blessed relief to find an American who writes pathological and not pathologic). In this chapter each system is taken step by step as if the reader stood at the *post mortem* table and in each step the changes produced by the disease are detailed and discussed. Take for instance the stomach, where most students would expect a long recital of change, there will be found a very full paragraph ending with the words "all these findings should be listed as occasional occurrences and not presented as typical of the disease."

Naturally he is much interested in the relation between "the subacute combined scleroses of the spinal cord" and pernicious anæmia, but will go no farther than to say that "it is still an open question whether this disease and pernicious anæmia are not due to the same underlying cause." Contrast this with Hurst, who bluntly says that achlorhydria, megalocytic anæmia and subacute degenerations are merely different manifestations of the same process.

The chapter on ætiology begins bluntly with a statement that the ætiology of pernicious anæmia is unknown. Then each plausible theory is taken in turn, discussed, turned inside out and either found completely wanting or found to contain a few facts to be used later on in the elaboration of a true theory of ætiology. Take for instance the question of increased blood destruction. This would explain the increase of urobilin so constantly found in urine and bile, but would it account for the irregularities in size, shape and staining reactions of the red cells? Many people would say that this points much more to some noxious agent injuring them before they can get into the general circulation, so that two processes are at work, both possibly with the same causal agent. There are other conditions which cause an anæmia of slow development and long standing, resulting in the later stages in more or less exhaustion of the hæmatopoietic function; such are infection or tumour invasion of the bone marrow; some destructive processes involving the liver and spleen; prolonged fever and wasting diseases, such as pulmonary tuberculosis, malignant disease of various types, chronic nephritis and syphilis and the chronic absorption into the system of some hæmolytic agent as occurs in infestation with *Dibothriocephalus latus*. Occasionally toxic conditions occur in pregnancy which give rise to severe anæmias; although these have been closely studied, they have yielded no suggestions as to the ætiological factors in pernicious anæmia. *Dibothriocephalus latus* poisoning on the other hand has been minutely investigated and the results suggest that the cause of pernicious anæmia may be a parasite, rather a protozoon than otherwise.

Here too is mentioned the equine disease said closely to resemble pernicious anæmia and encountered in Central Europe.

Many observers have found organisms in pernicious anæmia, for example, Hurst's *Streptococcus longus*; these they have regarded as causative, but Dr. Evans merely says of them that they are not convincing.

A matter of real importance is discussed when the work of certain biochemists is reviewed, biochemists who have shown that upon removal of the spleen the amount of a well-known antihæmolytic agent, cholesterol, is increased and that changes are brought about in the highly hæmolytic fatty acids and soaps.

Hæmolysis with its relation to lipoids and to the removal of effete red cells is discussed at considerable length, but although much work has been done, little finality has been reached.

The chapter on clinical descriptions is excellent, but naturally contains little that is new.

Soreness of the tongue is said to be far less common than often stated, while sensory disturbances are far more frequent. Little support is given to the theories of focal infection from mouth, teeth, nasal sinuses or stomach.

Detailed sections deal with metabolism, blood lipoids and gastric analysis. An important point is the infrequency of a response to the Wassermann test among patients with pernicious anæmia.

The blood changes are considered in detail, but again there is little that is new. The Price-Jones curve is not mentioned, though the less easily applied work of Capps on which it is based, is quoted at some length.

Diagnosis is again fully discussed, but with very little new work.

The chapter on treatment is perhaps the best in the book. In addition to the ordinary measures two much vaunted methods are examined in detail and the conclusions given are of the greatest importance. Of the first, transfusion of blood, after a most detailed account of methods, indications, dangers and limitations, it is said: "Blood transfusions are then of great value in pernicious anemia as symptomatic or palliative treatment. Sufficient information on this subject has not been collected to permit final judgement as to whether they should be used as routine treatment."

In regard to splenectomy, after careful consideration of all the reports of many workers he concludes: "In view then of the danger of the procedure and the slight improvement to be expected from it, splenectomy cannot be advised."

For hydrochloric acid, especially for the patients with "sore mouths," there is much to be said, for arsenic, especially the arsenobenzol compounds, little.

There is a bibliography and a satisfactory index. These complete a book which is to be thoroughly recommended.

THE DUODENAL TUBE.

THE medical practitioner with plenty of time and a penchant for hydraulics and plumbing will find great delight in Dr. Max Einhorn's book, "The Duodenal Tube" (Second Edition) which has lately been received.[1] Beginning with an interesting outline of the gradual development of the instrument, the author then shows its modifications and the various uses to which it can be put. Of these the most important are the isolation of the duodenum and the collection, examination and estimation of the constituents of the bile and pancreatic juices, unmixed with gastric contents. An important and interesting phenomenon in our experience is the almost invariable association of turbid bile or duodenal contents with cholecystitis, whereas ordinarily these fluids are quite clear. Einhorn criticizes the Meltzer-Lyon method of obtaining bile, though his arguments against dividing bile into A, B and C specimens of bile are as unconvincing as the arguments on the reverse side. We cannot help feeling that the duodenal tube as a therapeutic means is far too cumbersome as a routine method of treatment, though rarely it may have great value as a means of instilling fluids into or lavage of the duodenum. As a method of duodenal alimentation in severe operations on the mouth, pharynx, œsophagus or stomach it would appear to have a distinct and increasing value.

The book is well printed on good paper and with excellent illustrations, except the X ray photographs. There are also a few grammatical blemishes. Altogether it is a book that will be useful some day when medical practitioners are more in a position to interpret the various changes that occur in the gastro-intestinal functions.

[1] "The Duodenal Tube and its Possibilities," by Max Einhorn, M.D.; Second Edition, Revised and Enlarged; 1926. Philadelphia: F. A. Davis Company. Demy 8vo., pp. 206, with illustrations. Price: $3.00 net.

The Medical Journal of Australia

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The Prevention of Venereal Disease.

THE prevention and control of venereal disease in Australia are undertaken by the health authorities in the several States. In each State there is either a *Venereal Diseases Act* or else the *Health Act* is so framed that steps may be taken under its provisions to combat venereal disease. Notification has been made compulsory in each State, but in South Australia, though the *Venereal Diseases Act* was passed in 1920, its provisions have not yet been brought into operation. In New South Wales the notifications in 1925 numbered 5,445; in Victoria they numbered 5,711; in Queensland 1,503 cases were reported; in Western Australia the number was 652 for 1924 and in Tasmania the number for the same year was 516. The figures in some instances are for the calendar year and in others for the year ending on June 30. In other words the number of notified infections in Australia with the exception of South Australia in twelve months are approximately 13,877. This is equivalent to about 5‰ of the total population of five States. It is obvious that this figure will not represent the percentage of infection of the community, for under no Act of Parliament will all the cases be notified. Moreover, the provisions in regard to notification are in some States honoured more in the breach than in the observance.

The conscience of the community is much more alive to the necessity of controlling the spread of venereal disease than it was a decade or two ago and the public is more prepared to listen to instruction in regard to this and other questions of health. The moralist and the preacher have had their day and have been unable to do anything to stem the venereal tide. It is not suggested that their efforts do not meet with a limited amount of success nor is it desirable that their work should be discontinued. Human nature is such that men and women will continue to seek sexual intercourse, as they have sought it down the ages. The complicating factors entailed in the attitude of the infected person to his infection and in the attitude of the non-infected individual to the unfortunate sufferer make the problem extremely difficult. In spite of these things venereal diseases must be attacked on the same general principles as those which are adopted in regard to any other infective diseases. These may be considered from the point of view of notification, treatment and personal prophylaxis.

Great difference of opinion exists as to the advisability of notification of venereal disease. Notification is not practised in Great Britain. Western Australia blazed the track in Australia in this regard and it may fairly be claimed that the adoption of the practice has been justified by the results. The arguments for and against notification need not be discussed in this place. It was realized at the outset that if success were to be obtained, notification would have to be anonymous. The Acts in Australia have been framed in this way. More than mere notification, however, is necessary. Notification must be followed up by treatment and treatment must be carried out until a standard of cure has been obtained. In other words the provisions of a well planned venereal diseases Act must be rigorously carried out. If this is not done, it will be impossible to arrive at any conclusion other than that expressed by Dr. Robert Dick, Director-General of Public Health of New South Wales, who stated in his last annual report that "there does not appear to have been any special benefit derived from compulsory notification of the disease." It were better to repeal an Act than not to enforce its provisions.

Treatment of venereal disease has an important bearing on its prevention. As Dr. F. S. Hone has pointed out modern methods of treatment have materially reduced the period of infectivity of a patient and this fact has had a great deal to do with the reduced incidence, at any rate of syphilis. Treatment for venereal disease must be easily obtained and if necessary gratuitously given. One of the most valuable agencies in the treatment of venereal disease is the night clinic. Infected persons

are naturally reticent about the state of their health and the night clinic enables them to continue their work and at the same time be properly treated. The value of treatment centres is well exemplified in the report for 1925 of Sir George Newman, Chief Medical Officer of the Ministry of Health of Great Britain. There are one hundred and ninety-three treatment centres in England and Wales. During 1925 the number of persons seeking treatment for the first time at these centres was 57,157. This number is approximately 1·5‰ of the whole population. Sir George Newman expresses the opinion that treatment administered to private patients is not on the average nearly as thorough as in the treatment centres. This is due to the realization that syphilis cannot be eradicated by a few doses of an arsenobenzol compound. Treatment centres and night clinics exist in most of the large cities of Australia. The question of the advisability of increasing their number needs to be considered.

Personal prophylaxis may be considered from two points of view, immediately prior to and after exposure to infection. In most large cities it is possible for an individual to obtain prophylactic treatment soon after he has exposed himself to infection. Prophylaxis, however, should go further than this. It is inevitable that certain persons expose themselves to the risk of infection and information ought to be available to them as to how they may minimize the risk. During the war information of this kind was given to soldiers and undoubtedly reduced the incidence of disease. It would be necessary to explain that promiscuous sexual intercourse can never be made free from risk and it is very unlikely that a statement of this kind made in an authoritative and emphatic manner would produce any result other than reduction in disease. This is a matter not so much for the practitioner as for the departments of health.

Current Comment.

SYPHILIS OF THE LIVER.

IT is a difficult matter to determine the frequency with which the liver is involved in the syphilitic process. Involvement of a degree sufficient to cause clinical signs is comparatively rare. Gatewood found that syphilis of the digestive organs occurred in 0·37% of the syphilitics among 12,000 patients admitted to hospital. Clinical signs of lesions of the liver were present in only twenty-one cases. Four hundred and seventy cases of secondary syphilis provided only one obvious hepatic lesion. One hundred and sixty-seven cases of tertiary syphilis, on the other hand, furnished twenty hepatic lesions; cirrhosis was present in ten, gummata in seven and in three palpable gummata and cirrhosis were combined. Symmers found liver involvement in one-third of three hundred and fourteen autopsies in which macroscopical evidence of syphilis in other organs was present. It is obvious that macroscopical appearances do not give a correct idea of the position. Syphilis of the liver may be discoverable only on microscopical examination. Rolleston has pointed out that syphilis in its early stage may produce a benign jaundice which he regards as probably due to disordered action of the liver cells and not to intrahepatic and intralobular obstruction. This complication is of rare occurrence and he thinks that it is doubtful that disordered liver action is the sole cause of the condition. He thinks it possible that some other factor, such as infection of so low a virulence that it would not injure a normal liver, is able to produce an effect on an organ with an already impaired resistance.

The lesions produced by hepatic syphilis have been described as belonging to several groups. A diffuse interstitial hepatitis may be present; this form is common in the congenital form. Gummata may dominate the picture or the liver may be of the "scarred" type. Sometimes the scarring is so extensive that lobulations are seen and the liver is of the "botryoid" type. Finally amyloid changes may occur, either with gummata or as a separate manifestation. In 1912 Dr. Thomas McCrae reviewed fifty-six cases of syphilis of the liver and found that the disease presented a varied clinical picture. Loss of weight may be a prominent symptom, fever is common, the duration of the disease may be long and periods of improvement are of frequent occurrence. He found also that although features of hepatic disease such as general enlargement and nodules may be present, the diagnosis is sometimes obscured by ascites and other conditions.

In conjunction with Dr. W. R. Caven Dr. McCrae has made further observations and has extended his series to one hundred cases.[1] Seventy of the patients were white and thirty were coloured. Sixty-six were males and thirty-four were females. Five of the patients were under twenty years of age and of the remaining ninety-five fifty-five gave a history of the steady use of alcohol. These observers point out that the influence of alcohol as a contributing factor seems well established, but that this does not mean that syphilis is added to an alcoholic cirrhosis. A clear history was obtained in all those with congenital syphilis and in those with the acquired form a definite history of primary infection was obtained in thirty-five while the

[1] *The American Journal of the Medical Sciences*, December, 1926.

history of twenty-two others presented "strongly suggestive features." The time that had elapsed between the primary lesion and the appearance of hepatic disease, varied from eighteen months to twenty-five years. The clinical features described by Dr. McCrae and Dr. Caven do not differ materially from those of Dr. McCrae's earlier observation, but there are some points to which attention may well be drawn. Ascites is frequently present and may disappear after the abdomen has been tapped. In ten patients of the series this had occurred. The intervals between previous tappings and the present illness varied from some months to eleven years. The maximum number of previous tappings was twenty-seven. The abdomen of this patient had been tapped eleven times in one year eleven years previously and sixteen times in the next year, two hundred litres of fluid being removed. Abdominal pain was a prominent feature in sixty-one cases. Sometimes the pain was so severe that a diagnosis of an acute inflammatory lesion was made and the patient was submitted to operation. The blood of forty-one patients in the last series was examined by the Wassermann test. In eight cases no reaction was obtained. This is regarded as suggesting that failure to react is found in a larger proportion of hepatic than of other forms of visceral syphilis. Dr. McCrae and Dr. Caven do not discuss any possible reasons for this, but the diagnostic importance of the fact should not be overlooked. It cannot be too emphatically stated that failure to react to the Wassermann test does not mean absence of syphilis; in the case of a visceral lesion is this all the more to be remembered.

The point of practical importance to be remembered as a result of this work is the necessity for early diagnosis. This may not be an easy matter. A knowledge of the clinical manifestations of the condition is of primary importance and this is supplied by such work as that of Dr. McCrae and Dr. Caven. The conditions which require exclusion, are neoplasms, cholecystitis, tuberculous peritonitis, splenic anæmia and so forth. Early diagnosis will make treatment possible and treatment with iodide of potash and mercury will do a great deal of good in the early stages. It is obvious that no treatment will have any beneficial influence on the results of syphilitic disease of the liver, such as cirrhosis and amyloid disease. The most important point to be remembered in treatment is that arsenobenzol compounds should not be used. Dr. McCrae and Dr. Caven point out that the danger of causing acute damage to the liver is undoubtedly great. Rolleston holds that since the treatment of syphilis by arsenobenzol compounds has become general, the incidence of benign jaundice and acute yellow atrophy of the liver has increased. Spence and Brett showed in 1921 by using the lævulose tolerance test that hepatic insufficiency was present in benign jaundice following "Arsenobenzol" treatment. The Salvarsan Committee of the Medical Research Council concluded that the ill-effects of "Salvarsan" on the liver were probably due to the chemical nature of the whole compound as an amino-phenol derivative with the possibility that this type of poisonous action was dependent for its occurrence on the presence of adjuvant circumstances "of a nature as yet unknown."

INDUSTRIAL HYGIENE IN JAPAN.

STATISTICS which reveal "how many blue-eyed tram conductors fell off the rear end of a tram car on a wet Saturday afternoon," are an indication of great industry on the part of departmental officers, but, as Dr. A. J. Lanza, of the International Health Board, once remarked, they are useless for the purposes of industrial hygiene. The industrial hygienist wants to know what health hazards are associated with tram conducting and whether blue eyes and wet Saturday afternoons have any bearing on them. Industrial hygiene is the direct result of economic pressure. It seeks to secure for the worker hygienic surroundings, to provide that industrial processes are undertaken in such a way that risk to health is minimized and to determine the physical fitness of the worker for the occupation in which he is engaged. It may thus be claimed that the energy with which hygienic industrial conditions are sought, and the results obtained are to some extent an indication of the industrial prosperity of a country.

From this point of view it is interesting to note the present state of industrial hygiene in Japan. According to a recent report[1] by Dr. Yasutoshi Kose, Inspector of Factories and Mines, of the Japanese Home Department, there are approximately 20,000 factories in Japan and the majority are concerned in the textile industry. The workers in Japanese factories number 1,400,000 and 64% of these are employed in the manufacture of textile goods. Women form 60% of the total number of workers and 81% of the total number employed in textile industries. Only 10% of all female workers are married. Factory inspectors and assistant supervisors number 343 and seven of these are trained medical practitioners. The duties of the medical inspectors comprise much of the supervision which in English-speaking countries is left to lay inspectors. In addition they are concerned with the investigations proper of industrial hygiene, namely, the determination of health hazards and the formation of hygienic standards. They are also supposed to disseminate information relating to hygiene amongst both employers and workers. From this it will be seen that this mere handful of trained medical hygienists must have its time more than fully occupied. Dr. Kose points out that the employer is supposed to compensate the worker who is attacked by illness caused by his work. He makes the cryptic remark that "the application is rather elastic." It may be concluded that Japan is but in the early stages of industrial hygiene and that, like Australia, she is suffering from lack of medical men specially trained for the work. There are apparently sufficient lay inspectors for the collection of statistics of the "blue-eyed tram conductor" type. The morbidity for 1925 reached the high figure of 275‰, 168‰ for men and 336‰ for women. The number of workers injured amounted to 42‰.

[1] *The Japan Medical World*, February 15, 1926.

Abstracts from Current Medical Literature.

MORBID ANATOMY.

Giant Cells in Tuberculosis.

E. M. MEDLAR (*The American Journal of Pathology*, July, 1926) has investigated the formation of giant cells with regard to tuberculosis in the guinea pig, fowl and human being. He states that the presence of giant cells, especially of the Langhans type, together with mononuclear tubercles is considered sufficient evidence in tissues to warrant the diagnosis of tuberculosis even if tubercle bacilli are not demonstrated. In this connexion the first fact of importance is the period in the tuberculous reaction when the giant cell is formed; the second is its mode of formation and constitution. Serial sections have been made throughout the investigation. The guinea pig is the host of high susceptibility and here the mononuclear leucocyte plays the chief rôle in the production of the tubercle, the polymorphonuclear leucocyte in the production of caseation and the mononuclear leucocyte and lymphocyte in the disposing of the caseous material. After caseation has occurred, come the giant cells. They have not been observed in the early stages and when they do occur, it is in relation to small areas of caseation. The peculiar arrangement of the nuclei in the periphery of the cells appears to be due to the immigration of the mononuclear leucocytes into the periphery of the dead tissue. In the fowl the infections were natural and though they could not be followed in the same manner, corresponding stages were encountered. Here, however, there was evidence of a better balance between the resistance of the host and the virulence of the parasite. Numerous examples of giant cells formation were found. In human beings the older tuberculous lesions rather than the more recent contain giant cells. It would appear that they do not occur unless caseation or necrosis has occurred. The giant cells vary from 30μ to 300μ in thickness; they are very irregular in outline and more or less spheroid or lenticular in shape; two or more apparently separate giant cells may be joined together in serial section. The numbers and distribution of the nuclei are also very variable.

Sarcomatous Permeation of the Vena Cava.

H. J. FRY AND C. E. SHATTOCK (*The British Journal of Surgery*, October, 1926) report a case of intravascular sarcomatous growth. The patient was a woman, aged nineteen years. The tumour when discovered was found to consist of a hard mass, projecting forwards from the sacrum to which it was attached by a broad base. Laparotomy was undertaken and the tumour was found to extend in an upward and lateral direction. Portion of the growth was removed by a perineal incision and a diagnosis of ossifying chondroma without malignant change was made. Towards the end of her life the patient suffered from extensive œdema of both lower limbs and of the vulva. Multiple nodules of growth appeared in the subcutaneous tissues of the buttocks and hips. The patient finally died with uræmic symptoms eight months after coming under observation on account of the tumour. *Post mortem* examination revealed a large mass lying behind the peritoneum and almost filling the cavity of the pelvis, it also extended up into the lumbar region. The inferior *vena cava* was greatly distended and was a rounded semisolid pillar extending from the junction of the common iliac veins to the lower surface of the diaphragm. The lumen of the inferior *vena cava* was occupied by a mass of firm, whitish, gristly consistence which extended through the right auricle into the right ventricle and passed out as a solid cord through the pulmonary valve into the pulmonary artery. The mass was composed of growth and of organized thrombus compacted into a solid mass. Nodules were also found in the bases of the lungs. Microscopical examination of the tumour revealed cartilaginous areas undergoing varying degrees of calcification. The growth on the inferior *vena cava* contained a layer of well formed cartilage cells. No true cartilage was found in the lung nodules, but they consisted of white fibrous tissue embedded in the alveoli of the lung with numerous foci of calcification toward the centre of each nodule. In discussing the case the authors point out that Sampson Handley showed that the permeation of the lymphatics by carcinoma occurs chiefly in vessels of forty to fifty μ diameter, avoiding the larger trunks where the force of the stream might be strong enough to sweep the cells away as emboli. The hard and elastic nature of this tumour probably aided its extension along the *vena cava* and prevented its being broken up by the blood stream on its entry into the lumen of the vessels. The slowness of the growth permitted the gradual readjustment of the vascular mechanism.

Tuberculosis of the Male Breast.

R. H. JOCELYN SWAN AND H. J. B. FRY (*The British Journal of Surgery*, October, 1926) regard tuberculosis of the male breast as a pathological curiosity. They record a case which occurred in a man, aged forty-three years and tabulate twelve other cases from the literature. They have searched the records of the Cancer Hospital for the last twenty-five years and have found records of ten cases of tuberculosis of the breast among 2,542 breast tumours; only one of the patients was a male. Twenty-four years prior to the discovery of the breast tumour in this individual he was operated on for tuberculosis of the hip. A rounded, hard, somewhat nodular swelling in the region of the left breast was regarded as carcinomatous. Radical removal of the breast was carried out and examination of the specimen revealed an abscess cavity immediately beneath the nipple. A small quantity of thick, yellowish pus was found to contain undoubted tubercle bacilli. Small giant cells were present in the wall of the abscess. The authors point out that tuberculosis of the breast may be divided into two groups, primary and secondary. In the former group no tuberculous focus can be found elsewhere from which the lesion of the breast can be derived. In six out of the twelve cases reported in the literature the diagnosis rested upon the microscopical appearances apart from the finding of tubercle bacilli. In only one case was animal inoculation practised. The authors draw attention to the fact that the condition of fat necrosis described by Lee and Adair may give rise to appearances similar to those of tuberculous disease. They regard it as possible that some of the cases recorded as tuberculosis of the breast may have been due to fat necrosis.

Ossifying Hæmatoma of the Femur.

JAMES RIDDELL AND W. CHEYNE WILSON (*The British Journal of Surgery*, October, 1926) report the occurrence of an ossifying hæmatoma of the femur in a young man, aged nineteen years. The patient received a severe blow on the front of the thigh while playing football. A large swelling occurred during the next few days. It assumed a bony hardness. The tumour was excised and its walls were found to consist of cancellous bony tissue. The authors point out that the lesion is the result of hæmorrhage beneath the periosteum. Baetjer and Waters have described seventeen cases occurring in adults. These authors pointed out that the bone is not involved and that the calcium salts are laid down parallel to the shaft of the bone. In malignant tumours of bone there are no sharp borders and the calcium salts are laid down more or less perpendicular to the shaft. Moreover the bone is frequently involved.

MORPHOLOGY.

On the Growth of the Human Eyeball and Optic Nerve.

R. E. SCAMMON AND E. L. ARMSTRONG (*Journal of Comparative Neurology*, February, 1925) gives a review of the literature on the subject of the growth of the human eyeball and of the optic nerve and an account of their own research on prenatal and postnatal growth of the eyeball. They find among other things that the growth in volume of the eyeball in fœtal life follows the general course characteristic of the weight or volume of the body as a whole or more specifically the growth is very similar to that of the spinal cord and brain stem. The eyeball a little more than doubles its weight between birth and maturity and most of this growth is made in the first five years of postnatal life. No evidence was found of a puberal increase in eyeball weight in man. It

is estimated that the coats of the eye form the greatest part of the postnatal growth, the contents of the bulbus, including the lens comes next and the cornea makes the least postnatal increase. Observations are also made on the rates of growth of the various diameters of the orbit.

Intrauterine Migration of Ova.

B. L. WARWICK (*Anatomical Record*, May 25, 1926) states that by means of unilateral ovariotomy it was demonstrated that intrauterine migration of the ovum takes place in the sow. Four hundred and sixty-nine pregnant uteri were examined; there was indication that migration of ova had occurred in one hundred and ninety-nine or 42·43%. The number of fœtuses tends to become equalized in the two horns, even when there is an unequal production of ova on the two sides as indicated by the unequal distribution of *corpora lutea* in the two ovaries.

The Rôle of Cells of Medullary Origin in the Development of the Sympathetic Trunks.

ALBERT KUNTZ (*Journal of Comparative Neurology*, April, 1926) presents data obtained from embryos, bearing on histogenesis of the ganglia of the sympathetic trunks. These data indicate clearly that cells of medullary origin become displaced into the ventral roots of spinal nerves and that many of these cells become incorporated in the primordia of the sympathetic trunks. Although cells which become displaced from the spinal ganglia, also become incorporated in the sympathetic primordia, the conclusion that the neurones in the ganglia of the sympathetic trunks arise from cells of medullary origin is in accord with the fundamental principles of the differentiation of nervous tissue.

The Cerebellum of Reptiles.

O. LARSELL (*Journal of Comparative Neurology*, August, 1926) states that the cerebellum of the lizard and the snake may be divided into a *pars lateralis* on either side and a *pars interposita* between. Comparative studies of the structure of these parts from the viewpoint of the methods of locomotion of the several species under consideration point to the conclusion that the *pars lateralis* is primarily concerned with the movements of the paired appendages, while the *pars interposita* is concerned with the segmental muscles of the trunk and possibly the tail. The cerebellum of *Anmella* is very simple and probably represents considerable degeneration, that of the iguanid lizards shows an extreme specialization of the primitive type of cerebellum, while the cerebellum of *Gerrhonotus* is a generalized type with affinities in the various groups of reptiles. The snake cerebellum is relatively simple, but appears to represent a great specialization of the *pars interposita*, accompanied by degeneration of the *pars lateralis*. The deep cerebellar nuclei are present as a medial and a lateral group of cells. The afferent and efferent cerebellar fibre tracts in general are similar to those of mammals.

The Thyreoid and Parathyreoid Glands and the Growth of the Central Nervous System.

F. S. HAMMETT (*Journal of Comparative Neurology*, August, 1926) gives an account of studies which are an attempt at an evaluation of the part played by the thyreoid apparatus in the differential growth of the mammal. The point of view comprises a determination of the relative importance of different stages of development of the functions mediated by the thyreoid and parathyreoid glands in the growth of the brain and spinal cord and a determination of the sex differences in response to the glandular deficiencies. A study of the record of the growth changes in weight of the brain and spinal cord subsequent to thyreoid and parathyreoid removal at different ages in the postnatal life of an albino rat between weaning and maturity brings out the following: The growth of the central nervous system is retarded by thyreoid deficiency initiated at any of the stated ages. The degree of retardation is less than that of the body as a whole, because of differences in chemical make up with their consequent production of differences in type metabolism, with ensuing difference in degree of response of the general lowering of the metabolic level. The end result is an animal with a central nervous system which is heavier than that to be expected for the body size. The degree of retardation of the brain and spinal cord tends to increase with increase in the age of the animal at the time of the thyreoid removal. This is the same reaction as exhibited by the body as a whole and can be similarly interpreted. It is evidence of nonspecificity of thyreoid—central nervous system relation in so far as growth is concerned. Differences in degree of retardation of brain and spinal cord can be interpreted on the basis of the differences in lipoid-protein ratio. As regards the parathyreoid the author found that the growth of the central nervous system is generally retarded by a deficiency. The degree of retardation is less than that of the body as a whole. It is attributable to difference in compositional make-up. The end result is an animal with a central nervous system which is heavier than that to be expected for the body size. The degree of retardation of the brain and spinal cord after parathyreoid removal at the different ages is remarkably constant. It does not increase with increasing age at the time of glandular removal. This difference from the reaction of thyreoid deficiency and from the reaction of the body as a whole indicates a specificity of relationship between parathyreoid and central nervous system. This is to be traced to the toxæmia which follows parathyreoid removal. The puberal adjustment produces a distinct change in the growth response of the central nervous system to both types of glandular deficiency. This leads to the conclusion that there is more or less specific influence exerted by gonadal incretory activity on brain and cord development. Evidence is had that the brain is more subject to the influence than the spinal cord and that the brain of the male is more subject than that of the female.

Types of Three Great Races of Man.

R. BENNETT BEAN (*American Journal of Anatomy*, May, 1926) concludes his series of papers in which he endeavours to describe and illustrate some of the physical characters of the types of man, to show some of the features of their development and to give an approximate proportional distribution of the types throughout the world. The types of the three great races of man have been classified chiefly by their physiognomy, but all other body characters have been utilized as far as possible, specially the stature, sitting height and length of extremities. Descriptions have been given of the three types, hypermorph, mesomorph and hypomorph. These may be called respectively linear, because the measurable characters are long and relatively narrow, bulky, because the characters are large and relatively broad and round, because the characters are short and broad and persons of this type are usually fat and rounded. Iodine intake associated with a high rate of metabolism may be a factor in the evolution of the extreme hypermorph, because this type is found near the sea. Their most extreme characters are realized about the Baltic, Mediterranean and in Britain. Men in Europe have altered from the extreme mesomorph to the extreme hypermorph type. The mesomorph was the originator of agriculture and other culture and of civilization and remains as a stabilizer of civilization and has become a director of commerce. Persons of this type have continually maintained themselves in the interior of continental areas. The early hypermorph had a wide distribution, which later extended in Europe and spread through north and south Asia, north and east Africa and America. This type has reacted with the extreme hypermorph or urbanite by contact and mixture, in the development of civilization. Development is from the hypomorph stage through the mesomorph to the hypermorph and evolution has been from the extreme mesomorph to the extreme hypermorph on the one hand and to the extreme hypomorph on the other. The author further goes on to discuss these types in relation to disease to which they are susceptible and states that the hypermorph is more or less immune to the diseases of the mesomorph and *vice versa*. In a general way the hypermorph is executive, the mesomorph judicial and the hypomorph of undetermined mentality.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE SECTION OF OTO-RHINO-LARYNGOLOGY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on July 13, 1926, DR. C. F. WARREN in the chair.

Defects of Speech.

DR. J. J. WOODBURN read a paper on defects of speech. He began by saying that there was nothing original about what he intended to say. His remarks would be a lecture rather than a paper.

By defective speech was meant any alteration from the normal in phonation, pronunciation and enunciation of letters, syllables and words. In speech defects were included such conditions as aphasia, aphonia, stuttering and stammering—which meant the same—lisping, cluttering, mutism and lastly but most common of all, negligent speech. Negligent speakers were those who suffered no physical, pathological or mental disability and who by neglect or laziness spoke incorrectly.

Cities which had a mixed population were more likely to have numbers of speech defectives, for example, New York and London where the poorer people of different nationalities lived together.

Nations suffered ridicule often from speech defects. The Americans were held up to ridicule all the world over and were known by their nasal twang. The people of some counties in England were known by their "mouthing" of their words. The Cockney did not understand the proper coordination of the tongue and teeth.

Australians should be more careful about their speech. They had not yet gained the notoriety of the Americans, but were fast sinking to their level. As Australians were advocates of a purely white race, they should demand as English-speaking people purity of speech.

Professor Clapp, of Lake Forest, Illinois, stated in "The Reformation of American Speech" that many people realized that vicious speech habits were a serious handicap to national efficiency. They impaired the speed and accuracy of communication in business as well as in social life. They increased liability to disease. When a whole population said "cer'nly" and "mou'n" for "certainly" and "mountain," the victim of adenoids, of cleft palate, of bad teeth was not likely to be caught and cured. Yet a people that had learned the importance of the care of the teeth, should not be too hard to convince of the importance of careful utterance.

If all this was true of the so-called normal speech, how much more careful and particular should those, who devoted their attention to abnormal speech, be about insisting on slowness, distinctness, quality of tone, resonance, rhythm, emphasis, breath and all the other attributes, that made up correct speech.

Correct normal speech must be their standard in correction of speech defects.

Correct statistics were not to be found of defective speakers in the various countries of the world. In Australia the number of speech defectives, those who suffered from physical, mental and pathological defects, were estimated at 2½% for boys and up to 7½% in girls. This did not include negligent speakers. In America it was estimated at half a million of the population. Germany had begun a campaign under Gossler, Minister for Education in 1918, and had continued it ever since. Japan had done the same some years ago and America had more recently followed suit. Speech as a refinement should be considered on the same basis as good manners, deportment; also as in refinement in dress, refinement in speech. An attractive voice should be regarded as highly as an attractive appearance in ladies. Generally speaking to overcome negligent speech particular attention should be paid to breathing, phonation, articulation and thinking. People should think carefully of the words they were about to use and the slogan should be "speak carefully and deliberately."

Parents and guardians should insist upon:

(i.) Distinct utterances and relative slowness of speech.

(ii.) The elimination of baby talk. Why should a child be taught at the earliest stages two languages? It only led to confusion.

(iii.) Elision of syllables.

(iv.) The avoidance of slang.

(v.) No short replies or grunts for polite answers.

(vi.) Care in thought and speech and the avoidance of habits such as the use of "er" between words and such words as "You see." It was hard to overcome these defects when they had become established.

(vii.) Toleration of the nervous stammering child at the transition stage and at puberty. The transition stage was generally regarded at six to seven years of age.

(viii.) Attention to respiratory, pharyngeal, naso-pharyngeal, nasal, lingual, dental and spinal defects.

Dr. Woodburn went on to say that he wanted to appeal to those present on behalf of their patients, as well as on behalf of the many thousands of others who suffered from speech defects and who went unattended for years because of the old and still prevalent view (as expressed by some doctors, as well as most lay people) that these young sufferers would grow out of their disability. Nothing was more incorrect than this view, for it was considered by those who had studied the subject, that the longer these people were allowed to go unattended the more difficult it was to cure their complaints. He had seen bright, intelligent children who were held up to ridicule by their fellow pupils at school and who even shunned the society of their families because they were nervous and sensitive of their disabilities.

In view of the attention the blind, deaf and dumb and also the mentally defectives received, the small amount of attention that was bestowed on the speech defectives, at least in Australia, was surprising. The former classes received sympathy, the latter class was ridiculed, tormented and chastized. One writer had stated: "Unlike the insane or the feeble-minded stutterers and lispers possess an intelligence that is normal, hence they are able to carry out detailed instructions and if trained, to introspect.". Speech defects among children had been neglected by both doctors and educationalists in Australia to a notable degree with few exceptions.

Dr. Woodburn then went on to describe observations made by Mrs. Behnke with X rays on the movement of the diaphragm and intercostal muscles. The results had shown the entire correctness of the accepted scientific views on the matter of breath taking and breath control. They had also confirmed the accuracy of the view that stammering was mainly due to faulty action and failure of coordination of the breathing and voice muscles.

Turning to the physiology of the speech organs, Dr. Woodburn said that in order to do full justice to the study of speech disorders, it was necessary for medical practitioners to know something of the actions of the human speech organs, not exactly as the laryngologist knew them, but as an ordinary thinking person should if he was about to be entrusted with a delicate instrument, all the fine points of which were under his control.

The human vocal organ was practically a stringed instrument, a reed instrument and a whistle, all in one; an instrument which could not be compared with any other one thing. Comparisons and definitions failed when they considered that the human vocal organs forming this most beautiful instrument were more complex than any other instrument and at the same time capable of imitating nearly every instrument invented by man.

The human vocal instrument had four elements: first, a motor element, the respiratory muscles and lungs; second, a vibrator element, the vocal cords; third, a resonator, including the sternum, the throat, mouth and the nasal head cavities (these three being common to all musical instruments); and fourth, an articulator, the tongue, lips, cheeks, teeth and palate, which all other instruments lacked.

These elements varied in size and proportion as did the variations of all individuals and each element varied according to the will or the emotion of the individual. This susceptibility to change constituted a modifying power which gave that variety of tone quality which was not possible in other instruments. Qualities of tone expressing feelings, such as pain or pleasure, grief or joy, courage or fear, were made possible with this human vocal instrument because of the interaction of the four various parts.

The individuality as exhibited in each person's voice arose from the minute differences in these physical conditions, coupled with the finer differences in the physical elements. From the deep bass voice of man to the high soprano voice of woman, these four elements, a motor, a vibrator, a resonator and an articulator, alone entered into the composition of the voice.

Dr. Woodburn then described the larynx and its connexions and said that the less attention that was given to the larynx in singing and speaking, the better. Its relaxation is the essential point to be sought.

He compared the vocal cords to the lips of the cornet player on the mouthpiece of his instrument. When the work of the vocal cords was naturally performed, although it was so important, it was in itself light and easy and not at all exhausting. The normal action of the vocal cords would never cause hoarseness if the larynx and all its attending muscles were kept in a relaxed position. The abuse of the vocal cords in preachers, public speakers and military commanders caused impairment or even loss of voice. The size of the pharynx varied from time to time according to its functions and the wider the pharynx was opened, the fuller the resonance and the better the tone would be.

The office of the soft palate was to separate the pharyngeal from the nasal cavity during the act of swallowing, to prevent the air from escaping through the nose during the phonation of all letters, excepting *m*, *n* and *ng* and to modify the opening into the nose and thus attune the resonance cavities to the pitch and timbre of the note given by the vocal cords and pharynx. If the position of the soft palate was observed during vocalization, either by use of a mirror of by kinesthetic sensation, the uvula in producing a low tone was seen to relax and hang down far forward. As a voice ascended the scale, the tension of the soft palate was increased; it was elevated and the uvula became shortened, decreasing the opening behind the palate, but never closing it.

The form, size and use of the nasal and head cavities had a wonderful effect upon the resonance of the voice. If the vibrations were strong in these cavities, all other parts would vibrate in harmonious actions.

The tongue, one of the articulating organs, had an important part to play in altering the shape of the mouth cavity. When fixing vowel sounds the body of the tongue should lie as flat as possible, so as to enlarge the mouth cavity. The tip of the tongue should in general rest against the lower front teeth; however, it must frequently touch the roof of the mouth near the upper front teeth when producing *s*, *z*, *t*, *d*, *n*, *ch*, *j* and *l*; the back part of the tongue must rise to close against the soft palate when pronouncing *g* and *k* and hard *c*, *q* and *x*. Relaxing of this unruly member which was disposed to be rigid, must be constantly insisted upon until a normal flexibility was attained. The lips were also organs of articulation. The lips should have much training, for they should be educated to lift themselves clear and free of the teeth, thus adding one more resonance cavity.

Much practice should be given to dilating the nostrils, as a free, wide, open nose gave a free, well-rounded tone, while contracted nostrils induced the nasal twang so much dreaded. There was a strong tendency to unity of action between the nostrils and lips and soft palate. The soft palate moved downward and forward when the upper lip protruded and the nostrils dilated and moved backward and upward when the nostrils were contracted and the upper lip was allowed to rest upon the teeth.

The muscles of the face, if educated, were also capable of doing important work. Facial expression, begotten of muscular activity which the trained speaker had learned, was half his power over his audience and was the result of much arduous training.

Without properly controlled breathing (for breath was the material for speech), the best speaking tone could not be produced, hence the breathing apparatus must also be included in the speech organs; these were the muscles of respiration, the diaphragm and the lungs.

The four important conditions to remember in normal breathing were:

(i.) Downward movement of the diaphragm.
(ii.) The forward movement of the abdominal muscles.
(iii.) The widening outwards of the lower six ribs.
(iv.) The upward movement of the upper portion of the chest.

The lungs were spongy bodies which had no special activities of their own except a little elasticity and were controlled by the muscles of respiration.

Dr. Woodburn then described briefly some of the classifications which were adopted in regard to the various forms of speech defect. He proceeded to discuss them under the headings of aphasia, aphonia, stuttering and stammering, lisping, cluttering, nasality of speech, negligent speech.

Under the heading of central speech defects could be explained such conditions as aphasia, aphonia and deaf mutism, although the two former affections could be peripheral as well as central.

Aphasia was the inability to speak or express one's judgement. Aphasia was of two kinds, sensoric and motoric. In the sensoric form of idiopathic congenital dumbness a child did not understand, but was able to speak or repeat. This was not a disease *per se*, but was a stage in recovery when Wernicke's and Broca's areas had recovered, but the word picture area had not recovered. Another form of sensoric aphasia was deaf mutism; owing to the destruction or non-development of Wernicke's area the child did not hear and so was unable to speak. In the motoric form of aphasia a hearing child did not speak, yet understood what had been said. This happened when Broca's area only had been affected. Motor dumb children were nearly all rhachitic and it occurred mostly in the poorer classes. This was due to the poorer children being left more to themselves, whereas the children of wealthier people were not left to themselves.

The second and third years of a child's life were important, as a prolonged illness at such ages must of necessity be a factor in backwardness of speech.

In the sensoric form of dumbness, when the child did not understand and was unable to talk, the only hope of a cure was the exclusion of idiocy. In deaf mutism there must be a destruction or non-development of Wernicke's centres.

In aphasia due to the unilateral hemiplegia of apoplexy or thrombosis or encephalitis *et cetera* the patient was able to hear and understand, but was unable to speak. This speech area was not confined to one side of the brain, neither was Wernicke's area, as witness the left-hander who was paralyzed due to a lesion of his brain. He too became aphasic. Broca's speech centre evidently developed best on the most used side.

Human beings were considered to be the only animals in which the speech centres were properly developed, namely, the higher centres of word pictures and judgement. Birds such as parrots and magpies could talk and it was considered that apes and monkeys were capable to doing so; if these animals talked it was not the result of judgement, but was merely the power of repetition and not word pictures.

To speak spontaneously did not require that sense be spoken. An idea lying behind the word or words need not be necessary for spontaneous speech. This happened when the transcortical centre was affected. When Broca's centre was affected motor aphasia occurred.

It had been found in *post mortem* examinationss that in deaf mutes (those who had been deaf mutes since birth) this centre was poorly developed; that it was better developed in people who had suffered loss of speech later in life and well developed in those who had never suffered loss of speech.

There was little difference, if any, between the brain of a renowned orator or singer and that of the ordinary individual. Congenitally deaf people who learned to speak, did not develope the speech defects of stuttering and stammering.

Usually with aphasia the vocal organs remained intact. To sum up, an aphasic was one who was affected with a lesion of one of his speech centres and yet at the same time was conscious of his infirmity.

Anarthria was that form of speech which was absolutely unintelligible. The patient could emit sounds, but failed to articulate perfectly, since the facial centres were paralyzed. So it differed from aphasia and aphonia.

Bradylalia was characterized by slow, deliberate and clear speech and was typical of children learning to speak, of some normal persons and imbeciles.

The term aphonia was used to express complete loss of voice. It might be mental, hysterical or it might arise from severe mental shock, as in soldiers. When peripheral it was due to paralysis of the vocal cords as in a tumour of the recurrent laryngeal nerve or from pressure from an aneurysm or from tumours of the larynx, pharynx and œsophagus *et cetera*. It was distinct from mutism, because the voice was seldom entirely lost.

Dr. Woodburn then proceeded to discuss stammering and stuttering. According to the previous classifications stuttering and stammering were the same. Mrs. Behnke thought that one was due to difficulty with consonants and the other with difficulty in pronouncing the vowels; one occurred in the person who faltered over the *p* in *pa* or the *m* in *ma*, and the other in the person who kept repeating the *p* without saying *pa*.

A definition of stammering according to E. L. Kenyon (see Ballinger) was the perversion of normal process of speech and was dependent on the emotional disturbances arising from the necessity of developing the speech function under the trying conditions of social interrelations. Thus there were aroused in the child more or less profound manifestations of social interrelations. Behind this exciting cause often lay congenital foundations and environmental conditions which tended to encourage the natural childish tendency to excitability and emotionalism.

Kenyon stated that the immediate psychology of incitation to stammering involved (i.) emotional excitement, (ii.) mental confusion, (iii.) the impulsive effort to talk while in this uncertain state of mind.

Dr. Woodburn's own view following on this was that the normal child who stammered, was one in whom the power of thought was much better developed than his power of speech and behind this there was the exciting cause (emotionalism).

Lisping was due to malformation of the tongue, uvula, lips and defective teeth and also to adenoids and enlarged tonsils, tongue-tie *et cetera*. Lisping might be of three kinds: The negligent type was due to defective perception and execution of sounds. The organic type was due to an abnormal condition of the speech organs. The third or neurotic type was due to functional disturbance and to the temperament of the patient. Cluttering was characterized by nervousness that showed itself in excessive rapidity of speech with indistinct enunciation. The nervous hurry of his mind made a person combine sounds imperfectly. The breathing, as in stuttering and stammering, became spasmodic and irregular. The clutterer spoke better, the more he thought about his speech. With the stutterer it was just the opposite. If a patient was a clutterer, he usually stuttered too.

In regard to nasality the pure nasal sounds were *n*, *m* and *ng*, in forming which the breath usually issued entirely by the nostrils. A partial nasality of the vowel sounds, which were purely oral sounds, was the principal defect in most English-speaking people.

Other speech disturbances were those due to cleft palate, uvula disturbances and negligent speech.

The treatment of speech defects covered a large field of medicine and surgery since the causes were legion. It was useless to proceed with the correction of speech defects, until the patient had overcome the physical, mental, moral and environmental causes. Then by attention to breathing exercises, gentle persuasion, picture books, the correct position of the tongue and lips for the different letters of the alphabet and later practise and construction of difficult and emotional phrases, would the patient gradually overcome most of the defects that had not been present too long.

In conclusion Dr. Woodburn drew attention to one great cause which was common to stuttering, stammering, lisping and negligent speech—imitation. Mrs. Scripture quoted a case in which one school teacher had in her class one stutterer out of thirty-six pupils at beginning of the term. At the end of two months she had five stutterers in the class. The original stutterer had been removed to another district and at the end of three months the others had recovered. Children should also be kept away from adult stutterers. Behnke quoted the case of a gardener who was a stutterer and the son of his employer who was often playing near by, became a stutterer. When he was removed permanently from the presence of the gardener he recovered. The same might be applied to lisping; but how much more was negligent speech due to imitation. In Auckland Dr. Woodburn had noticed that all the 'bus boys who called the destination of their 'buses had the same nasal intonation with little variation and almost the same pitch. They were quite unintelligible except to the practised ear of the Aucklanders. The same might be said of the newsboys and railway porters of Sydney.

The fault undoubtedly lay, firstly with the primary school teacher who received the child at the critical age—six years—and who had to deal with the majority of speech defectives, secondly with the parents, thirdly with the secondary school teachers. Fourthly came the university lecturer. Dr. Woodburn knew many doctors who taught students the science of medicine and the art of surgery and who themselves were the most negligent speakers in the land. When a lecturer was heard to remark: "Y'had er look at 'im yet?" it seemed that they had reached a stage in negligent speech which was beyond recovery. Under these conditions it was not to be wondered at that almost all students were negligent speakers.

DR. A. J. BRADY commented on the ability of birds to speak; their speech was merely imitative. He emphasized the distinctive nature of the power of speech in human beings; their speech was the result of intelligence.

There was, however, one point upon which Dr. Woodburn had not touched in his paper, namely that defect common to young males and causing them much unnecessary embarrassment, the breaking of the voice. Faulty methods of voice production had a great deal to do with the associated hoarseness. In his experience he had found many instances of cure after a few lessons from an experienced teacher of voice production. Speech was largely a matter of imitation and defects arose through association with careless or peculiar speakers. He gave as an example the dialects of certain parts of Ireland whose inhabitants never travelled beyond the confines of their county.

He would ask Dr. Woodburn whether such speech defects as stuttering and stammering were prevalent among the Germans. Did their guttural speech prevent such defects.

DR. R. S. GODSALL commented upon the chronic laryngitis so often met with among men who in the course of their work had to use their voices considerably, for example preachers, auctioneers and bookmakers. He considered such defects due solely to faulty voice production. By adopting correct methods under competent direction these persons could be enabled to develope tireless voices.

DR. H. SEAWARD MARSH asked Dr. Woodburn what he considered the best form of treatment to adopt in curing defects of speech. He thought that the only cure when no disease existed was by means of voice production.

DR. GARNET HALLORAN wished to confine his remarks to deaf mutism. He would have liked Mr. Earlam, of the Deaf, Dumb and Blind Institution to have been present to urge upon them the necessity for the early training of deaf mutes. He knew of no greater tragedy than to see a family of deaf mutes reach adolescence without anything being done to relieve their condition. They should be sent to an institution at an early age. He could not hold the profession at fault in this regard. He blamed the mothers.

It was in his experience extremely difficult to convince a mother that her child was a deaf mute. Valuable years of training were lost before she would acknowledge the child's affliction. He drew attention to the fact that while there was a law compelling normal children to attend school to a certain age, there was in the case of deaf mutes no law making their education compulsory. He condemned the lethargic attitude of the Government which made only a paltry donation to the Deaf, Dumb and Blind Institution. There was great need for the public to awaken to the need for the education of these children and to force their legislators to move effectively to remedy the present tragic position.

DR. H. HUFF JOHNSTON drew attention to the hysterical type—the aphonic—and an instance within his own experience of a male patient at the South Sydney Hospital. It had been impossible to make the patient speak, but he could sing lustily. The treatment made light of the defect, thus giving him the necessary confidence and training in correct breathing completed the cure.

Dr. Brady's reference to the hoarseness of the breaking voice reminded him of an Army Medical Officer's method of treating abused voices—squeakiness, hoarseness and loss of voice. This officer contended that in such cases the muscles of the larynx were undeveloped and that they could be effectively developed by external massage.

DR. C. F. WARREN laid stress on pronunciation and enunciation. So powerful was the imitative faculty that neglect of these two, while leading only to minor and unpleasing defects, soon pervaded the speech of a country. The development of true speaking was essentially a matter of imitation and without doubt much of the prevalent slovenliness of speech could be laid at the door of the school teachers. They were, however, not wholly to blame. The Government was ever in need of teachers, the growing schools continually demanded them. Insufficient attention was given to such matters as correct speech and the child at the most imitative time of its life acquired from its teacher a slovenliness equalling the teacher's own. Teachers should be taught elocution, especially in the primary schools. The Government should be convinced of this.

Slovenly habits of speech such as the elision of the *h* and the terminal *g* could be bracketed in his mind with that other modern mental slovenliness—jazz music. These two were a mental disease which only education could eradicate. He did not attach much importance to the young child being taught "baby talk" by its mother as a factor in speech defects. Dr. Halloran's remarks on the support of the Deaf, Dumb and Blind Institution met with his concurrence.

Education was the only method of curing defects of speech especially in the case of stutterers. He cited a case of a satisfactory cure achieved through patient education. This boy had had great difficulty in speaking; at times he was mute. His teacher would count up to five and forbid the boy to speak until the count had been completed. Any attempts at speech before this would be checked and the count restarted. It took twelve months to effect a cure.

DR. WOODBURN in reply thanked members for their discussion.

In referring to Dr. Brady's question as to the prevalence of stuttering in Germany, he thought that the number of clinics established in that country suggested a prevalence of stuttering.

The reason for the ability of certain patients to sing when they were otherwise mute lay in their conscious control of the muscles of the diaphragm necessary for singing. This control should be applied to speaking.

He concurred with Dr. Godsall that bookmakers, auctioneers and preachers suffered rather from misuse of voice than any disease.

Dr. Marsh had asked him for a line of treatment. Apart from overcoming the nervous stage and the breathing stage the child should be taught by a competent teacher. Only by careful and patient practice could success be achieved. He advocated the segregation of stutterers and stammerers from other children upon whom they had a bad speech influence. The London County Council and certain school authorities in the United States of America had established special schools for these children.

Discussing Dr. Johnston's remarks on aphonia in the army, he considered that the hoarse voice was due to overuse and that the squeaky voice was not properly trained. He did not think that either of these were due to physical defects.

Lupus of the Pharynx.

DR. W. R. BEAVIS presented a young married woman, a *nullipara*, *ætatis* twenty-six years. In October, 1925, she had first noticed a slight pain on swallowing. This pain had been intermittent. She had not suffered from cough, night sweats or hoarseness.

Examination on April 26, 1926, had disclosed infiltration and ulceration of the soft palate and tonsils. A specimen had been removed from the ulcerated area for pathological examination and tuberculosis was reported. The Wassermann test had yielded no reaction. The lungs were normal as also was the nose. There was no evidence of lupus past or present in the nose.

On May 15, 1926, and again on June 16 galvano cautery had been applied.

On July 12, 1926, the pharyngeal side of the right arytenoid was observed to be involved.

This case was of interest in that the patient was born in Australia.

Fibroma of the Vocal Cord.

Dr. Beavis's second patient was a young man, *ætatis* twenty-five years, who had complained of hoarseness for about eighteen months. Examination revealed a fibroma on the anterior side of the left vocal cord. It was proposed to excise the tumour.

MEDICO-POLITICAL.

THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION has recently endeavoured to improve its organization by the inauguration of a scheme whereby the State was divided into areas or groups of towns outside the metropolitan area. A map of Queensland was published in the isssue of November 13, 1926, at page 672, in which these several areas were depicted. It was proposed that a member residing in the town chosen as the centre, should be appointed for each area to act as district representative. The various groups were to be divided up amongst certain members of the Council of the Branch and it was intended that these members would make it their business to keep in close touch with the district representative of the areas allotted to them. Several districts have now been organized and local medical associations have been formed. The following is a list of the local medical associations, together with the name of the honorary secretary in each instance and that of the representative on the Council of the Branch:

Downs and South-Western Medical Association, Dr. J. Spencer Roberts, Toowoomba, Dr. Eustace Russell; Central Western Medical Association, Dr. C. V. Watson Brown, Longreach, Dr. F. A. Hope Michod; West Moreton Medical Association, Dr. G. H. Brandis, Ipswich, Dr. Mervyn S. Patterson; Maryborough Medical Association, Dr. J. Gillbee Brown (*pro tempore*), Maryborough, Dr. G. P. Dixon; Bundaberg Medical Association, Dr. Egmont Schmidt, Bundaberg, Dr. A. P. Murphy; Cairns Medical Association, Dr. P. S. Clarke, Cairns, Dr. S. F. McDonald; Townsville Medical Association, Dr. A. H. Baldwin, Townsville, Dr. Neville Sutton; Charleville Medical Association, Dr. A. W. Fox, Charleville, Dr. A. G. Anderson.

A MEETING OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION AND OF THE MEDICAL SOCIETY OF VICTORIA was held in the Medical Society Hall, Albert Street, East Melbourne, on February 2, 1927, DR. B. T. ZWAR, the Vice-President, in the chair.

The Honorary Treasurer, Dr. C. H. Mollison, presented the Balance Sheets of the Victorian Branch of the British Medical Association and of the Medical Society of Victoria. He intimated that both were to be regarded as satisfactory. The Branch had paid its way after providing

VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

STATEMENT OF RECEIPTS AND PAYMENTS FOR PERIOD FROM JANUARY 13, 1926, TO JANUARY 10, 1927.

RECEIPTS.

	£ s. d.	£ s. d.
January 13, 1926—		
To Balance, Bank of Victoria, Melbourne	259 18 4	
„ Cash in hand	12 0 0	
		271 18 4
January 10, 1927—		
To Subscriptions—		
Metropolitan members	£2,646 17 0	
Country members	1,364 12 5	
Junior members	558 1 0	
Capitation Grant, London	3 12 0	
		4,573 2 5
„ Clerical work for members	£42 13 9	
„ Clerical, Obstetric Research Committee	50 0 0	
„ Clerical Assistance, Post-Graduate Committee	12 10 0	
		105 3 9
„ *Pro rata* refund *re* Guarantee Fund		12 10 0
„ Rent of Hall		17 5 0
		£4,979 19 6

PAYMENTS.

	£ s. d.	£ s. d.
January 10, 1927—		
By Medical Society of Victoria		2,012 8 11
„ *The British Medical Journal*		1,560 17 3
„ Transfer to Building Fund		240 0 0
„ Federal Committee		122 14 0
„ Salaries—		
Assistant Secretary	£208 0 0	
Assistant to Librarian	149 10 0	
		357 10 0
„ Rebates to Divisions		54 13 6
„ Postages, Duty Stamps *et cetera*		87 9 4
„ Printing		34 7 9
„ Stationery		56 12 0
„ Commission on New Members		8 15 0
„ Advertising		9 8 0
„ Audit Fee, 1925		3 3 0
„ Telephone		8 1 7
„ Clerical Assistance		5 3 0
„ Electric Light		14 7 5
„ Multigraph		99 9 0
„ Repairs to Typewriter		0 4 6
„ Travelling Expenses		0 15 10
„ Bank Charges		0 18 4
„ Insurance		6 4 9
„ Lanternist	£3 5 0	
„ Expenses, Divisional Meeting, Bendigo	2 18 3	
„ Expenses, Divisional Meeting, Ballarat	1 7 5	
„ Sundries	16 15 4	
		24 6 0
„ Balance, Bank of Victoria	£260 10 4	
„ Cash in hand	12 0 0	
		272 10 4
		£4,979 19 6

MEDICAL SOCIETY OF VICTORIA.

STATEMENT OF RECEIPTS AND PAYMENTS FOR PERIOD FROM JANUARY 13, 1926, TO JANUARY 10, 1927.

RECEIPTS.

	£ s. d.
January 13, 1926—	
To Balance, Bank of Victoria	103 17 3
January 10, 1927—	
To Subscriptions	2,012 8 11
„ Transfer from Building Fund	1 7 8
„ Transfer from Medical Agency	242 0 0
	£2,359 13 10

PAYMENTS.

	£ s. d.	£ s. d.
January 10, 1927—		
By THE MEDICAL JOURNAL OF AUSTRALIA		1,201 10 0
„ Interest on Building Fund Debentures		242 7 6
„ Salaries—		
Secretary	£412 0 0	
Assistant Secretary (Bonus)	5 0 0	
Library Clerk	65 0 0	
Caretaker	100 0 0	
		582 0 0
„ Library, Journals and Binding		30 0 0
„ Furniture		15 0 0
„ Postages		87 9 6
„ Rates, Taxes and Insurance		37 0 8
„ Light and Power		14 7 5
„ Audit Fee, 1925		4 4 0
„ Bank Charges		1 5 1
„ Telephone		8 1 8
„ Repairs—		
Electrical	£7 5 0	
Plumbing	4 8 9	
Waterproofing Hall	3 7 6	
Relaying Rubber	7 12 6	
		22 13 9
„ Sundries		3 14 6
„ Balance		109 19 9
		£2,359 13 10

MEDICAL SOCIETY OF VICTORIA.

BALANCE SHEET AT JANUARY 10, 1927.

LIABILITIES.	£	s.	d.
Debentures	6,925	0	0
Balance	3,713	3	2
	£10,638	3	2

ASSETS.	£	s.	d.
Bank of Australia	109	19	9
Building	9,203	6	3
Furnishings, Fittings	1,324	17	2
	£10,638	3	2

Audited and found correct—
J. V. M. WOOD & CO.,
Incorporated Accountants and Auditors.
Melbourne, January 27, 1927.

C. STANTON CROUCH,
Secretary.
CRAWFORD. H. MOLLISON,
Honorary Treasurer.

for half the interest on the debentures issued in connexion with the new building. This had involved a sum of £240.

Against the surplus of the Medical Society of Victoria was to be set a sum of £6,925 on account of debentures.

The balance sheets as presented by Dr. Mollison were adopted on the motion of Dr. Allen Robertson, seconded by Dr. Colin McDonald.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

Howe, Edmund James Glanville, M.B., 1926 (Univ. Sydney), The Hospital, Callan Park.

McKellar, Charles Crawford, M.B., Ch.M., 1926 (Univ. Sydney), 47, Gardyne Street, Waverley.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on February 7, 1927,

The following degrees were conferred *in absentia*:

Master of Surgery (Ch.M.).—H. P. Clark, Gertrude U. Grogan and C. R. O'Brien.

A representative Committee was appointed to carry out the necessary arrangements for the reception of Their Royal Highnesses the Duke and Duchess of York on the occasion of their visit to the University on March 29 next. The Undergraduates' Associations will participate in the welcome to the Royal visitors.

Leave of absence for this year was granted to Dr. H. J. Clayton, Tutor in Medicine at the Royal Prince Alfred Hospital. Dr. A. J. Collins was appointed Acting Tutor at the Hospital for the balance of the current year.

At the request of the subscribers the Senate will endeavour to arrange for His Royal Highness the Duke of York, during his visit to the University, to perform the ceremony of unveiling in the Great Hall the portrait of Sir Alexander MacCormick.

The Senate accepted with regret the resignation, owing to ill-health, of Dr. B. Coen (Lecturer and Demonstrator in Anatomy).

On the recommendation of Dr. Gordon Craig, Dr. J. W. S. Laidley and Dr. M. S. Earlam were appointed Fellows in Urology for 1927.

The following appointments were made: Mr. M. R. Morey as Demonstrator in Organic Chemistry and Dr. H. J. Wilkinson as Lecturer and Demonstrator in Anatomy.

The following examiners were appointed for the Final (Deferred) Examination in the Faculty of Medicine:

Medicine: Professor A. E. Mills and Dr. Cecil Purser.

Surgery: Professor F. P. Sandes and Dr. H. S. Stacy.

Obstetrics: Professor J. C. Windeyer and Dr. S. H. MacCulloch.

Gynæcology: Dr. R. L. Davies and Dr. G. Armstrong.

Clinical Medicine: Dr. C. B. Blackburn and Dr. H. J. Ritchie.

Clinical Surgery: Dr. G. H. Abbott and Dr. C. E. Corlette.

Correspondence.

ANDREW HONMAN.

SIR: The acceptance of the intermediate principle as part of the hospital policy of the State brings to mind the activities of Andrew Honman in this matter, for if not the "only begetter" of the idea it was certainly he who gave it actuality.

For some years following his return from active service in the South African war the question of providing a cheap and efficient hospital treatment for the less well-to-do classes continually occupied his thoughts and to its solution he devoted all his abounding energy and unyielding determination. It was indeed a lonely furrow that he ploughed, for the bulk of the profession frowned on his proposals and many indeed were actively hostile.

In the "Samaritan" nurses of the Salvation Army Honman found a nursing staff ready to hand and these he established in a house in East Melbourne in 1904. Here and in other houses in the neighbourhood this precursor of Bethesda lived a somewhat irregular and furtive existence until the establishment of the hospital in its present house in Erin Street in 1906.

On one instance the reason for its eviction from its temporary lodgement was the drifting of clouds of ether vapour from the operating theatre through the drawing-room windows of a well known surgeon who occupied the adjoining house. It is characteristic of Honman that although some years elapsed before official recognition and registration were obtained, that defect was in no way allowed to interfere with the work, material for which was provided by himself and his friends. The eventual establishment of the hospital in Erin Street soon disarmed criticism and Honman had his well deserved reward in the high estimation in which Bethesda is held both by the profession and the laity.

It is a surprising fact from our present view point that until less than twenty years ago chloroform was the anæsthetic of choice among Victorian surgeons and physicians too. Honman held very decided opinions as to the inherent dangers of chloroform and the advantages of ether and from the beginning of his practice in this State in season and out of season he preached the gospel of ether with apostolic fervour. His method of propaganda was very practical, the protesting anæsthetist would have forced

on him willy-nilly a tin of ether, and in lieu of a Clover's inhaler a cone constructed of brown paper and a towel.

I believe that Honman had no inconsiderable share in bringing about this revolution in practice.

A remarkable instance of the impression which Honman made upon his contemporaries came to my notice in Cairo in 1916. One of his fellow-workers, without prompting on my part and without previous mention of his name, described to me how "a fellow named Honman" cleared a certain district of cholera during the Egyption epidemic of 1882. After thirty-four years, Honman's zeal, self-sacrifice and forcefulness in administration, still remained a most vivid memory with his old coworker.

In addition to a love of adventure for its own sake, Honman possessed in a very marked degree that understanding of and sympathy for coloured and aboriginal races so valuable in tropical administration and so essential to those Australians who undertake the management of our tropical possessions and territories.

There are few men who have worked harder or longer than Honman. Many years ago I heard him described by one of our leaders as "the best general practitioner in the State." He possessed in marked degree that combination of qualities, mental and physical, which go to make up the "compleat" surgeon and given fuller opportunity he certainly would have attained the highest rank. Generous to a fault he was the kindliest and most lovable of men.

Yours, etc.,

A CORRESPONDENT.

Melbourne,
Undated.

SYMPATHETIC RAMISECTION.

SIR: Dr. Royle concludes his recent article on this subject (THE MEDICAL JOURNAL OF AUSTRALIA, January 29, 1927) with this paragraph:

"The application of ramisection to Hirschsprung's disease and the effect obtained by this treatment open up great possibilities. Persistent constipation can with certainty be relieved by a safe operation and visceroptosis may be shown to respond to the same procedure."

It appears feasible enough to regard Hirschsprung's disease as arising from achalasia of the pelvi-rectal sphincter or an excessive degree of postural tone of the large bowel. Accepting that view, there appears good reason for expecting a reduction of sympathetic innervation of the colon to relieve this abnormal condition. I would like to know, however, what reasons Dr. Royle has for expecting visceroptosis "to respond to the same procedure."

What is the pathology of visceroptosis? Years ago Keith showed that the intraabdominal pressure, arising from the combined tonic contraction of the musculature enclosing the abdominal viscera, is the prime factor in maintaining the several viscera in their respective positions. Visceroptosis would result from failure of this muscular support.

J. I. Hunter and Royle showed that control of this state of plastic or postural tone was the function of the sympathetic fibres entering the striated muscles. Is it not probable, then, that sympathetic ramisection would reduce the tone of the muscles of the abdominal wall and so aggravate visceroptosis rather than cure it?

Yours, etc.,

A. R. SOUTHWOOD.

Adelaide,
February 10, 1927.

RODENT ULCER OF THE EYELID AND X RAYS.

SIR: In your issue of February 12, 1927, page 241, appears a note having reference to the treatment of a rodent ulcer involving the lower eyelid, which is reported to have failed to respond to X ray therapy. Details of the voltage impressed on the tube and of the filter employed are not given, hence it seems probable that these are considered of no special importance. Nevertheless, the statement is made that 'they (X rays) frequently cause a superficial healing with rapid deep extension into the tissues of the orbit."

Is it possible that this is one of the very numerous instances of failure which has been attributed to X ray therapy when in point of fact the failure should have been attributed to inefficiency in its administration, more particularly with regard to the proper penetration and filtering off of the softer rays?

That the more extensive rodent ulcers involving the neighbourhood of the eyelids will respond rapidly to one or two effective doses of deep X ray therapy applied at a voltage of 200,000 is well illustrated by photographs of a very extensive lesion before and after treatment, as published in a supplement to your pages, "Transactions of Congress, July 26, 1924." Nor did this once break down three years after treatment.

I have published in the *Journal of Roentgenology* another case of rodent ulcer with even perforation of the cartilage, which has readily yielded to three X ray treatments and has not recurred since.

Efficient X ray treatment, in common with treatment by radium, has a very great advantage over other methods, such as surgical excision, diathermy *et cetera*, inasmuch as no healthy tissue is ever destroyed and that in consequence there is no further mutilation beyond what has been caused by the disease itself.

It must not be understood by the above that all cases of rodent ulcer will respond to X ray treatment, as this method (especially if treated by other means previously) in common with all other modes of treatment claims a proportion of failures.

Yours, etc.,

H. FLECKER.

71, Collins Street, Melbourne,
February 14, 1927.

THE MILK OF AUSTRALIAN WOMEN.

SIR: In the section on pædiatrics of the Retrospect appearing in this journal for January 15, 1927, there is a statement to the effect that some recent work published by Dr. Ellice Dart, Miss Stephens and myself (*Australian Journal of Experimental Biology and Medical Science*, 1926, III., 129) shows that the average percentages of protein, fat and lactose in the milk of Australian women do not differ greatly from the values published for women in other countries.

This statement is only partially correct, as there is a material difference in the case of the figures for the percentage of fat. The average percentage of fat given in European and American figures is about 3·5. The average figure for Australian women is 4·95%, while the modal or most frequent value is 5·30%. These latter figures are roughly 50% higher than those published for other countries. The difference is large enough to merit attention. With it are probably associated such important physical characters as the relatively greater weight of Australian infants. This question is discussed in a paper which, it is hoped, soon will appear.

Yours, etc.,

H. S. HALCRO WARDLAW.

The University of Sydney,
February 17, 1927.

CANCER RESEARCH.

SIR: In your editorial of to-day's issue, page 275, appears the statement:

> It is therefore somewhat disconcerting to learn that the Cancer Research Committee is prepared to expend considerable sums of money on the purchase of X ray and other plants for the purpose of blind experiment in treatment.

Lest any of your readers should be similarly disconcerted, would you kindly give the same publicity to my official statement that this assertion is not true?

Thanking you in anticipation,

Yours, etc.,

F. P. SANDES,

Professor of Surgery and Acting Director of Cancer Research (University of Sydney); Honorary Surgeon to the Royal Prince Alfred Hospital.

Sydney,
February 19, 1927.

A DISCLAIMER.

SIR: I have just learned that my name has been used in advertisements of the Steinach film which is at present being shown in Australia.

I should be obliged if you would print this statement that I am in no way connected with the film, and that I had no knowledge that my name was going to be used as it has been.

Yours, etc.,

NORMAN HAIRE, Ch.M., M.B.

90, Harley Street, London, W.1,
January 7, 1927.

THE ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

A REQUEST has been received from the Royal Society for the Prevention of Cruelty to Animals in New South Wales that attention should be drawn to the good work which it is doing. This Society has been in existence for over twenty-five years and its objects cannot fail to appeal. It employs four inspectors whose duties are concerned with the welfare of stock, whether in transit, in saleyards or at the markets. Its activities include a home for sick or injured dogs at Little Bay and the King Edward Dogs' Home, Waterloo. It has also established lethal chambers for the painless destruction of unwanted and diseased dogs and cats in the city, suburbs and in several country centres.

With the object of improving its financial position the Society is holding a "be-kind-to-animals" week from March 6 to March 12, 1927. Sports meetings and other forms of entertainment will be organized throughout the State. Ordinary membership of the Society may be obtained by anyone donating five shillings or more. One guinea will secure election as a governing member and life membership may be obtained for five pounds or more. All donations should be forwarded to the Society at 114a, Pitt Street, Sydney.

Proceedings of the Australian Medical Boards.

VICTORIA.

THE undermentioned have been registered under the provisions of Part I. of the *Medical Act*, 1915, as duly qualified medical practitioners:

Collins, Reuben, M.B., B.S., 1926 (Univ. Melbourne), 78, Gladstone Street, Kew.

Crotty, Daniel James Comyns, M.B., B.S., 1926 (Univ. Melbourne), 7, Frederick Street, Hawthorn.

Dyring, Valdemar Carl, M.B., B.S., 1926 (Univ. Melbourne), Were Street, Brighton Beach.

Registration of Additional Qualification.

Mackay, Kate, M.D., 1924 (Univ. Melbourne).

NEW SOUTH WALES.

THE undermentioned has been registered under the provisions of *The Medical Act*, 1912 and 1915, as a duly qualified medical practitioner:

Mackay, John Shaw, M.B., B.S., 1915, M.D., 1922 (Univ. Melbourne), 55, The Avenue, Strathfield.

Registration of Additional Qualification.

Moore, Brooke, F.R.C.S. (Edinburgh), 1926.

Naval and Military.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Numbers 118 and 124, of December 2 and 21, 1926.

AUSTRALIAN MILITARY FORCES.

First Military District.

Australian Army Medical Corps.

Captain H. Dolman is appointed from the Australian Army Medical Corps Reserve, 1st October, 1926.

Australian Army Medical Corps Reserve.

Honorary Captain J. H. Blackburn is transferred to the Australian Army Medical Corps Reserve, 3rd Military District, 20th November, 1926.

Second Military District.

Australian Army Medical Corps Reserve.

Honorary Captains W. H. O'Neill and E. J. Rowbotham are retired under the provisions of Australian Military Regulation 152 (1), 20th October, 1926.

Honorary Captain R. U. Russell is retired under the provisions of Australian Military Regulation 152 (1), 24th November, 1926.

Award of the Colonial Auxiliary Forces Officers' Decoration.

Unattached List.—Lieutenant-Colonel R. A. P. Waugh.

Third Military District.

Australian Army Medical Corps.

The provisional appointment of Captain A. E. Coates is confirmed; Lieutenant-Colonel J. J. Black, D.S.O., is brought on the authorized establishment of Lieutenant-Colonels, 1st September, 1926.

Australian Army Medical Corps Reserve.

Honorary Captain J. H. Blackburn is transferred from the Australian Army Medical Corps Reserve, 1st Military District, 20th November, 1926.

Major A. H. Powell, D.S.O., is transferred to the Australian Army Medical Corps Reserve, 1st Military District, 1st December, 1926; Honorary Captain W. A. Pryor is transferred to the Australian Army Medical Corps Reserve, 4th Military District, 1st December, 1926; the name of Major Henry Hume Turnbull is as now stated, and not as shown in Executive Minute No. 371/1921, promulgated in *Commonwealth Gazette*, No. 72, of 15th September, 1921.

Unattached List.

Major-General the Honourable Sir N. R. Howse, V.C., K.C.B., K.C.M.G., is placed upon the Retired List with permission to retain his rank and wear the prescribed uniform, 26th October, 1926.

Fourth Military District.

Australian Army Medical Corps.

Majors I. B. Jose, M.C., and J. B. Birch, M.C., are brought on the authorized establishment of Majors, 1st September, 1926.

The provisional appointment of Captain N. McLeod is confirmed.

Australian Army Medical Corps Reserve.

Honorary Captain W. A. Pryor is transferred from the Australian Army Medical Corps Reserve, 3rd Military District, 1st December, 1926. The undermentioned officers are placed upon the Retired List, with permission to retain their ranks and wear the prescribed uniform, 10th December, 1926:—Majors C. E. Marshall and H. A. Wyllie, M.C.; Captain P. Cockburn and Honorary Captain F. W. Waters is retired under the provisions of Australian Military Regulation 159 (2), 10th December, 1926.

Fifth Military District.

Australian Army Medical Corps.

To be Lieutenant-Colonel—Major J. Bentley, M.C., 1st November, 1926.

Obituary.

HENRY RIDDELL STANLEY.

WE regret to announce the death of Dr. Henry Riddell Stanley which occurred at Melbourne on February 16, 1927.

Medical Appointments.

Dr. Charles Duguid (B.M.A.) has been appointed by the Governor in Council, South Australia, to be an Honorary Commissioner to inquire into and report upon tubercular treatment in Great Britain and the Continent of Europe.

* * * *

Dr. Walter John Westcott Close (B.M.A.) has been appointed by the Governor in Council, South Australia, to be an Honorary Commissioner to inquire into and report upon genito-urinary diseases in Great Britain, the Continent of Europe and the United States of America.

* * * *

The undermentioned have been appointed Members of the Advisory Committee in connexion with Medical and Dental Inspection in State Schools, Victoria: Sir James William Barrett (B.M.A.), Dr. Bernard T. Zwar (B.M.A.), Dr. Edith Helen Barrett (B.M.A.), Dr. Edward Robertson (B.M.A.), Professor Frank Clare Wilkinson (B.M.A.), and Dr. Clarence George Godfrey (B.M.A.).

* * * *

Dr. Marie Montgomerie Hamilton (B.M.A.) has been appointed Assistant Medical Officer. Office of the Director-General of Public Health, Sydney.

* * * *

Dr. Noel Simon Solomons (B.M.A.) has been appointed Government Medical Officer at Mendooran, New South Wales.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xx.

ADELAIDE HOSPITAL: (1) Pathological Registrar. (2) Medical Registrar.

CHILDREN'S HOSPITAL, CARLTON, VICTORIA: Medical Vacancies.

MARRICKVILLE DISTRICT HOSPITAL, SYDNEY: Honorary Radiographer.

RENWICK HOSPITAL FOR INFANTS, SYDNEY: Resident Medical Officer.

ROYAL NORTH SHORE HOSPITAL OF SYDNEY: Temporary Honorary Assistant Pathologist.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Murat Bay and other West Coast of South Australia Districts.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia. Yarloop Hospital Fund.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

MAR. 1.—Tasmanian Branch, B.M.A.: Council.
MAR. 2.—Victorian Branch, B.M.A.: Branch.
MAR. 2.—Western Australian Branch, B.M.A.: Council.
MAR. 3.—South Australian Branch, B.M.A.: Council.
MAR. 4.—Queensland Branch, B.M.A.: Branch.
MAR. 8.—Tasmanian Branch, B.M.A.: Branch.
MAR. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
MAR. 10.—Victorian Branch, B.M.A.: Council.
MAR. 11.—Queensland Branch, B.M.A.: Council.
MAR. 15.—Tasmanian Branch, B.M.A.: Council.
MAR. 15.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAR. 16.—Western Australian Branch, B.M.A.: Branch.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.

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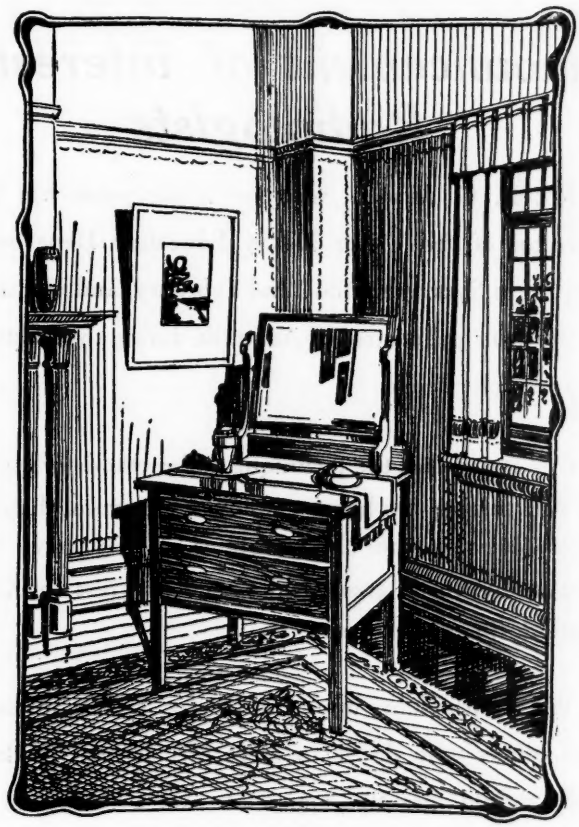

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The "Cobham" comprises:

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2ft. 6in. **DRESSING TABLE,** with mirror 20in. x 16in. and two large drawers.

PEDESTAL CUPBOARD to match.

3ft. **COMBINATION BEDSTEAD,** fitted with iron frame and 3-ply wire mattress. Extra £5/10/-

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Watson

Announcement of interest to Radiologists

Mr. E. C. Jerman, who for many years has been Director of the Victor X-Ray Education Department, arrived in Sydney on the 22nd February, and will travel to the principal centres of Australia during the following four or five weeks.

It is stated that the technique and methods originated by Mr. Jerman are being employed in several thousand laboratories in the United States. They have been responsible for a great deal of the progress in X-Ray work during recent years.

We are providing opportunities for X-Ray Specialists and others who desire to meet Mr. Jerman to do so, and should greatly appreciate the receipt of an intimation from any who would like to be present at one of his lecture-demonstrations.

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